List of research topics for NII International Internship Program 2016 2nd Call

No.	Research area	Title of the research	Website	Name of supervisor	Title of the supervisor	Requirements for applicants: Master's / Ph.D. Student	Total number of acceptance per supervisor	Duration : 2-6months (less than 180days)	Comments
1. Principles of Informatics Research Division									
1	Automated Programming	Abductive and Inductive Programming	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students	5	3-6 months	Basic knowledge of abduction, inductive programming, ILP or program synthesis is required. Contact Prof. Inoue in advance.
2	Automated Reasoning	GPU-Based Satisfiability Testing	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students		3-6 months	Basic knowledge of SAT and MaxSAT solving and experience in C++ and CUDA or OpenCL and required. Contact Prof. Inoue in advance.
3	Automated Reasoning / Constraint Satisfaction	Answer Set Programming	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students		3-6 months	Basic knowledge of ASP/CP/SAT and computer programming skills are required. Contact Prof. Inoue in advance.
4	Automated Reasoning / Knowledge Embedding	Tensor-Based Reasoning and Learning	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students		3-6 months	Knowledge in basic linear algebra and Octave programming skills are advantages to tackle this subject. Contact Prof. Inoue in advance.
5	Machine Learning	Learning from Interpretation Transition	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students		3-6 months	Basic knowledge of Machine Learning and/or Neural Networks is required. Additionally, knowledge in biological modeling or model checking is useful. Contact Prof. Inoue in advance.
6	Multi-Agent Systems / Decision Making	Multi-Objective Constraint Optimization	http://research.nii.ac.jp/il/	Katsumi Inoue	Professor	Master's or PhD students		3-6 months	Basic knowledge in optimization and computer programming skills are required. Contact Prof. Inoue in advance.
7	Computational Neuroscience, Time series analysis	Datamining in Neuroscience	http://research.nii.ac.jp/~r-koba/en/index.html	Ryota Kobayashi	Assistant Professor	Master's or PhD students	2	4-6 Months	Applicants should have a strong interest in applications of information sciences to neuroscience. Basic knowledge of machine learning, signal processing, optimization, statistics, and/or applied mathematics will be appreciated.
8	Computational Neuroscience, Neural Network	Simulating real neural networks	http://research.nii.ac.jp/~r-koba/en/index.html	Ryota Kobayashi	Assistant Professor	Master's or PhD students		4-6 Months	Applicants should have a strong interest in applications of information sciences to neuroscience. Basic knowledge of electical circuits, numerical analysis, and/or applied mathematics (differential equation, dynamical systems, stochastic process etc.) will be appreciated.
9	Numerical Linear Algebra	Fast implementation of iterative solvers for systems of linear equations	http://researchmap.jp/KenHayami/?lang=english	Ken Hayami	Professor	Master's or PhD students	2	6 months	Knowledge of numerical linear algebra and computing

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10	Numerical Linear Algebra	Application of iterative solvers for systems of linear equations to optimization (e.g. to quadratic programming or semi-definite programming)	http://www.nii.ac.jp/TechReports/public_html/16-003E.pdf	Ken Hayami	Professor	Master's or PhD students		6 months	Knowledge of numerical linear algebra and computing
11	Airtificial Intelligence	Machine Learning for Advanced Driving Assistance Systems	http://ri-www.nii.ac.jp/	Ryutaro Ichise	Associate Professor	Master's or PhD students	4	3-6 months	
12	Airtificial Intelligence	Relational Learning for Knowledge Graph / Linked Data	http://ri-www.nii.ac.jp/	Ryutaro Ichise	Associate Professor	Master's or PhD students		3-6 months	
13	Airtificial Intelligence	Data Mining for Large Scale Web Data	http://ri-www.nii.ac.jp/	Ryutaro Ichise	Associate Professor	Master's or PhD students		3-6 months	
14	AI	Legal Reasoning	http://research.nii.ac.jp/~ksatoh/	Ken Satoh	Professor	PhD students	2	2-3months	Duration contraints:January-March, Required Knowledge: Strong background of Logic/Logic Programming
15	AI	Multi-Agent Systems	http://research.nii.ac.jp/~ksatoh/	Ken Satoh	Professor	PhD students		2-3months	Duration contraints:January-March, Required Knowledge: Strong background of Logic/Logic Programming
16	AI	Argumetation System	http://research.nii.ac.jp/~ksatoh/	Ken Satoh	Professor	PhD students		2-3months	Duration contraints:January-March, Required Knowledge: Strong background of Logic/Logic Programming
17	software verification	separation logic	http://research.nii.ac.jp/~tatsuta/index-e.html	Makoto Tatsuta	Professor	Master's or PhD students	2	2-6 months	
18	Intelligent Robotics	Integration of Robot Simulation and Social Agent Simulation	http://www.sigverse.org/	Tetsunari Inamura	Associate Professor	Master's or PhD students	3	3-6 months	Requred skill: writing software in C++
19	Intelligent Robotics	Concept Acquisition through interaction between Humans and Robots		Tetsunari Inamura	Associate Professor	Master's or PhD students		3-6 months	Requred skill: writing software in C++
20	Cognitive Science	Research on sense of agency/ownership using immersive virtual reality		Tetsunari Inamura	Associate Professor	Master's or PhD students		3-6 months	

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2. Information Systems Architecture Science Research Division									
21	Self-adaptive Software	Model-driven development for self-adaptive software	http://www.honiden.nii.ac.jp/en/research/mdd-for-sas	Kenji Tei	Associate Professor	Master's or PhD students	3	2-6 months	See the web site (http://www.honiden.nii.ac.jp/en/research/mdd-for-sas)
22	Programming Languages	Bidirectional Transformation Languages	http://research.nii.ac.jp/~hu http://www.prg.nii.ac.jp/bx/	Zhenjiang Hu	Professor	Master's or PhD students	4	2-6 months	Interested in DSL design and its implementation.
23	Functional Programming	Haskell Library for Bidirectional Programming	http://research.nii.ac.jp/~hu http://www.prg.nii.ac.jp/bx/	Zhenjiang Hu	Professor	Master's or PhD students		2-6 months	Familiar with functional languages such as Haskell or Ocaml
24	Parallel Programming	High-Level Parallel Programming for Processing Big graphs	http://research.nii.ac.jp/~hu http://www.prg.nii.ac.jp/members/tungld/bigra.html	Zhenjiang Hu	Professor	Master's or PhD students		2-6 months	Has experiences of writing parallel programs
25	Software Engineering	Adaptive and Evolutionary Software Development	http://research.nii.ac.jp/~hu	Zhenjiang Hu	Professor	Master's or PhD students		2-6 months	Intereted in developing practical software systems
26	Program Testing	Testing Non-testable Programs	http://researchmap.jp/nkjm/	Shin Nakajima	Professor	Master's or Ph.D students	2	2-6 months	Contact the supervisor for details before applying the internship program
27	Formal Methods	Refinement-based Modeling with Event-B	http://researchmap.jp/nkjm/	Shin Nakajima	Professor	Master's or Ph.D students		2-6 months	Contact the supervisor for details before applying the internship program
28	Formal Verification	Model-Checking of Causal Loops	http://researchmap.jp/nkjm/	Shin Nakajima	Professor	Master's or Ph.D students		2-6 months	Contact the supervisor for details before applying the internship program
29	Requirements Engineering	Software Dependability Game	http://researchmap.jp/nkjm/	Shin Nakajima	Professor	Master's or Ph.D students		2-6 months	Contact the supervisor for details before applying the internship program
30	Wireless and Mobile Communications	Design of radio resource allocation strategies for 5G wireless communication systems	http://www.nii.ac.jp/en/faculty/architecture/kaneko_megumi/	Megumi Kaneko	Associate Professor	Master's or PhD students	2	3-6 months	Required programming skills: Matlab. Basic knowledge in signal processing and wireless/digital communications is required.
31	Wireless and Mobile Communications	Spectrum and energy efficient wireless communication protocols in Cloud-assisted 5G Radio Access Networks	http://www.nii.ac.jp/en/faculty/architecture/kaneko_megumi/	Megumi Kaneko	Associate Professor	Master's or PhD students		4-6 months	Required programming skills: Matlab. Basic knowledge in signal processing and wireless/digital communications is required.
32	Wireless and Mobile Communications	Radio resource allocation and scheduling for M2M/IoT wireless networks	http://www.nii.ac.jp/en/faculty/architecture/kaneko_megumi/	Megumi Kaneko	Associate Professor	Master's or PhD students		3-6 months	Required programming skills: Matlab. Basic knowledge in signal processing and wireless/digital communications is required.
33	Wireless and Mobile Communications	Design of full duplex protocols for next-generation wireless communication systems	http://www.nii.ac.jp/en/faculty/architecture/kaneko_megumi/	Megumi Kaneko	Associate Professor	Master's or PhD students		4-6 months	Required programming skills: Matlab. Basic knowledge in signal processing and wireless/digital communications is required.

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34	wireless networks	resource management and quality of service in wireless networks	http://klab.nii.ac.jp/	Yusheng Ji	Professor	Master's or Ph.D students	4	3-6 months	Basic understanding on infrastructure-based and/or ad hoc wireless communication systems is expected
35	wireless networks	ad hoc/sensor networks (vehicular communications, IoT, etc.)	http://klab.nii.ac.jp/	Yusheng Ji	Professor	Master's or Ph.D students		3-6 months	Basic understanding on infrastructure-based and/or ad hoc wireless communication systems is expected
36	network architecture	ICN, CCN, SDN	http://klab.nii.ac.jp/	Yusheng Ji	Professor	Master's or Ph.D students		3-6 months	Understanding of internet architecture and protocols is required
37	resilient networking	robost networking for disaster situations	http://klab.nii.ac.jp/	Yusheng Ji	Professor	Master's or Ph.D students		3-6 months	Understanding of internet architecture and protocols is required
38	Computer network	Anomaly detection and software defined networks	http://www.fukuda−lab.org	Kensuke Fukuda	Associate Professor	Master's or PhD students	3	3-6months	Solid programming in python (or C). Intern must finish by the end of Mar 2017.
39	Computer network	Web privacy analysis	http://www.fukuda−lab.org	Kensuke Fukuda	Associate Professor	Master's or PhD students		3-6months	Solid programming in python. Intern must finish by the end of Mar 2017.
40	Computer network	Network measurements	http://www.fukuda−lab.org	Kensuke Fukuda	Associate Professor	Master's or PhD students		3-6months	Solid programming in python (or R). Intern must finish by the end of Mar 2017.
41	Hardware Design	Hardware Design for Brain Style Computing	http://www.nii.ac.jp/en/faculty/architecture/yoneda_tomohiro/	Tomohiro Yoneda	Professor	Master's or PhD students	2	6 months	
42	Hardware Design	Design Tool for an Asynchronous FPGA	http://www.nii.ac.jp/en/faculty/architecture/yoneda_tomohiro/	Tomohiro Yoneda	Professor	Master's or Ph.D students		6 months	
43	Software Testing	Analysis and Testing of Ajax Web Applications	http://www.honiden.nii.ac.jp/en/research/ajax−testing	Shinichi Honiden	Professor	Master's or PhD students	3	2-6 months	
44	Software Testing	TestDojo: Web Service for Crowdsourced Software Testing	http://www.honiden.nii.ac.jp/en/research/test−dojo	Shinichi Honiden	Professor	Master's or PhD students		2-6 months	

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45	Gamification, Motivation	Motivational Methods for WillingRing (Software for Motivating Users to Start and Continue a Certain Activity based on Life Log Analysis)	http://goo.gl/xMePpN	Kazunori Sakamoto	Assistant Professor	Master's or PhD students	4	2 -6 months	We welcome students who love programming and creative activities. E-mail: exkazuu@nii.ac.jp LinkedIn: http://goo.gl/em22I4
46	Web Mining, Werable Devise	Collection and Analysis Methods for WillingRing (Software for Motivating Users to Start and Continue a Certain Activity based on Life Log Analysis)	http://goo.gl/xMePpN	Kazunori Sakamoto	Assistant Professor	Master's or PhD students		2 -6 months	We welcome students who love programming and creative activities. E-mail: exkazuu@nii.ac.jp LinkedIn: http://goo.gl/em22I4
47	Programming Languages	Type error debugging of functional languages	http://link.springer.com/chapter/10.1007%2F978-3-642-41582-1_12#page-1, http://www.is.ocha.ac.jp/~asai/TypeDebugger/	Kanae Tsushima	Assistant Professor	Master's or PhD students	3	3-6 months	Interested in developing practical software systems.
48	Programming Languages	Type error debugging using machine learning	http://researchmap.jp/tsushima/?lang=english	Kanae Tsushima	Assistant Professor	Master's or PhD students		3-6 months	Interested in programming languages and machine learning.
49	Programming Languages	Test case generation for typed languages	http://researchmap.jp/tsushima/?lang=english	Kanae Tsushima	Assistant Professor	Master's or PhD students		3-6 months	
3. Digital Content and Media Sciences Research Division									
50	Security	Fundamental techniques and systems for content security	http://research.nii.ac.jp/~iechizen/official/research-e.html	Isao Echizen	Professor	Master's or PhD students	3	3-6months	
51	Privacy	Privacy-enhancing technologies for resolving trade-offs between data anonymity and utility	http://research.nii.ac.jp/~iechizen/official/research-e.html	Isao Echizen	Professor	Master's or PhD students		3-6months	
52	computer vision	One of the following topics. (1) 3D vision, (2) Recognizing human activities, and (3) Gaze sensing and gaze navigation	http://www.dgcv.nii.ac.jp	Akihiro Sugimoto	Professor	Master's or Ph.D Student	5	Up to 6 months (at least 3 months; a longer period is better)	Rigorous background on mathematics is required. Programming skills on image processing and computer vision are also required. In the case of Master course students, highly motivated students who can stay for 6 months are preferable. Students who are willing to pursuit ph D at NII are preferable as well. Potential applicants should send your CV and research interests/proposals directly to Prof. Sugimoto before your application.

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53	discrete geometry	(1) Discretization model of geometric shape, (2) Discrete shape fitting to noisy integer points.	http://www.dgcv.nii.ac.jp	Akihiro Sugimoto	Professor	Master's or Ph.D Student		Up to 6 months (at least 3 months)	Rigorous background on mathematics as well as computer vision is required. In particular, sufficient knowledge of linear algebra, graph theory and number theory are important requirements. Programming skills on image processing or computer vision are also required. Potential applicants should send your CV and research interests/proposals directly to Prof. Sugimoto before your application.
54	content-based image and video analysis	video and image semantic analysis and classification (esp. TRECVID SIN and LOC task. see: http://www-nlpir.nist.gov/projects/trecvid/)	http://research.nii.ac.jp/~satoh	Shin'ichi Satoh	Professor	Master's or Ph.D (Ph.D preferable)	5	more than 90 days	
55	content-based image and video analysis	identification of specific object in video and image (esp. TRECVID instance search. see: http://www-nlpir.nist.gov/projects/trecvid/)	http://research.nii.ac.jp/~satoh	Shin'ichi Satoh	Professor	Master's or Ph.D (Ph.D preferable)		more than 90 days	
56	content-based image and video analysis	Event detection and action recognition (esp. TRECVID multimedia event detection task. see: http://www-nlpir.nist.gov/projects/trecvid/)	http://research.nii.ac.jp/~satoh	Shin'ichi Satoh	Professor	Master's or Ph.D (Ph.D preferable)		more than 90 days	
57	content-based image and video analysis	Image and Video Captioning (esp. TRECVID Video-to-Text pilot task or Microsoft Video to Language Challenge: see http://ms-multimedia-challenge.com/challenge)	http://research.nii.ac.jp/~satoh	Shin'ichi Satoh	Professor	Master's or Ph.D (Ph.D preferable)		more than 90 days	
58	text mining	Text mining based on probabilistic model	http://www.ldear.nii.ac.jp/~takasu/en/	Atsuhiro Takasu	Professor	Master's or Ph.D Student	3	3-6 months	
59	Big Data	data analysis and mining methods for (sensor) big data	http://www.ldear.nii.ac.jp/~takasu/en/	Atsuhiro Takasu	Professor	Master's or Ph.D Student		3-6 months	
60	Geometric Computer Vision	3D Reconstruction for Large-Scale Image Collections; 3D Human Scan Using Mobile Devices ((structure-from-motion, pose estimation, minimal problems, et al.)	http://researchmap.jp/yinqiangzheng	Yinqiang Zheng	Assistant Professor	Master's or PhD students	4	3-6 months	Students with strong mathematical and programming skills are preferred. We are aiming at publications in top venues only.
61	Photometric Computer Vision	Hyperspectral/Multispectral Image Capture/Denoising/Analysis (illumination and reflectance analysis, intrinsic image, specularity, shadow, fluorescence, et al.)	http://researchmap.jp/yinqiangzheng	Yinqiang Zheng	Assistant Professor	Master's or PhD students		3-6 months	Students with strong mathematical and programming skills are preferred. We are aiming at publications in top venues only.

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62	Natural Language Processing	Syntactic/Semantic Parsing	http://kmcs.nii.ac.jp/mylab/	Yusuke Miyao	Associate Professor	Master's or Ph.D Student	2	6 months	Fundamental knowledge about one of the following areas is required: 1. statistical parsing methods (e.g. PCFG parsing, dependency parsing), or 2. syntactic theory (e.g. HPSG, CCG)
63	Natural Language Processing	Question Answering over Linked Data	http://kmcs.nii.ac.jp/mylab/	Yusuke Miyao	Associate Professor	Master's or Ph.D Student		6 months	Fundamental knowledge about one of the following areas is required: 1. structured machine learning methods (e.g. CRF, tree kernel methods), or 2. semantic web technologies (e.g. SPARQL)
64	Natural Language Processing	Vision and Text Processing	http://kmcs.nii.ac.jp/mylab/	Yusuke Miyao	Associate Professor	Master's or Ph.D Student		6 months	Fundamental knowledge about one of the following areas is required: 1. vision processing techniques (e.g. CNN), or 2. deep learning techniques for text processing (e.g. LSTM)
65	Text Media	Language technologies to assist human reading/writing	http://www-al.nii.ac.jp	Akiko Aizawa	Professor	Master's or Ph.D students	3	3-6months (6 months is preferable)	
66	Text Media	Scientific paper mining and recommendation	http://www-al.nii.ac.jp	Akiko Aizawa	Professor	Master's or Ph.D students		3-6months (6 months is preferable)	
67	Speech information processing	Controllable, flexible, and enjoyable speech synthesizer for audiobook	http://researchmap.jp/read0205283/?lang=english	Junichi Yamagishi	Associate Professor	PhD students	5	2-6 months	The successful candidate should be a PhD student in speech processing, computer science, engineering, linguistics, mathematics, or a related discipline. He or she should have strong programming skills and experience with statistical parametric speech synthesis. • Familiarity with software tools including HTK, HTS, SPTK, and Festival is preferable
68	Speech information processing	Speaker recognition and countermeasures for spoofing	http://www.signalprocessingsociety.org/technical-committees/list/sl-tc/spl-nl/2013-05/spoofing	Junichi Yamagishi	Associate Professor	PhD students		2-6 months	The successful candidate should be a PhD student in speech processing, computer science, engineering, linguistics, mathematics, or a related discipline. He or she should have strong programming skills.
69	Speech information processing	DNN-based speech synthesis (signal processing, acoustic modeling and text analysis)		Junichi Yamagishi	Associate Professor	PhD students		2-6 months	The successful candidate should be a PhD student in speech processing, computer science, engineering, linguistics, mathematics, or a related discipline. He or she should have strong programming skills and experience with statistical parametric speech synthesis and deep learning. • Familiarity with software tools including HTK, HTS, SPTK, and Festival is preferable

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70	Speech information processing	Spoken dialogue system	http://www.udialogue.org	Junichi Yamagishi	Associate Professor	PhD students		2-6 months	The successful candidate should be a PhD student in speech processing, computer science, engineering, linguistics, mathematics, or a related discipline. He or she should have strong programming skills. Familiarity with software tools including MMDAgent is preferable
71	Speech information processing	Voice transformation (Parameterization and models, new applications/frameworks using voice transformation and speech synthesis seemlessly)		Junichi Yamagishi	Associate Professor	PhD students		2-6 months	The successful candidate should be a PhD student in speech processing, computer science, engineering, linguistics, mathematics, or a related discipline. He or she should have strong programming skills and experience with speech synthesis or voice conversion.
72	Multimedia Data Mining and Analysis	People activities analytics in the context of social online presences and real physical behaviours in multimedia landscape (e.g., deep learning for multimedia content recommendation, personalized venue inference, enhancing online education by leveraging social media techniques)	http://research.nii.ac.jp/~yiyu/	Yi Yu	Assistant Professor	Master's or Ph.D Student	4	3-6months	
73	Music Information Retrieval and Its Applications	Music discovery (e.g., content-based deep learning for cold start problem in music recommendation, personalized retrieval and playlisting)	http://research.nii.ac.jp/~yiyu/	Yi Yu	Assistant Professor	Master's or Ph.D Student		3-6months	
74	Digital Humanities	Machine learning for image processing (esp. character recognition), geographic and spatial information, Semantic Web for cultural heritage	http://agora.ex.nii.ac.jp/~kitamoto/education/internship/	Asanobu Kitamoto	Associate Professor	Master's or PhD students	4	3-6 months	Programming skill is required. An interdisciplinary topic needs working with domain experts.
75	Earth Environmental Informatics	Big data analytics (esp. image processing, remote sensing and machine learning) for solving environmental and societal problems	http://agora.ex.nii.ac.jp/~kitamoto/education/internship/	Asanobu Kitamoto	Associate Professor	Master's or PhD students		3-6 months	Programming skill is required. An interdisciplinary topic needs working with domain experts.
76	Crisis Informatics	Big data analytics (esp. image processing, natural language processing, and machine learning) for natural disasters and crisis	http://agora.ex.nii.ac.jp/~kitamoto/education/internship/	Asanobu Kitamoto	Associate Professor	Master's or PhD students		3-6 months	Programming skill is required. An interdisciplinary topic needs working with domain experts.
77	Open Science	Citizen science, crowdsourcing, open data, data and metadata management system, scholarly information platform	http://agora.ex.nii.ac.jp/~kitamoto/education/internship/	Asanobu Kitamoto	Associate Professor	Master's or PhD students		3-6 months	Programming skill is required. An interdisciplinary topic needs working with domain experts.

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78	Signal Processing	Graph Signal Processing for Image Representation & Analysis	http://research.nii.ac.jp/~cheung/intern.	Gene Cheung	Associate Professor	Master's or PhD students	3	3 months minimum	math background in linear algebra, signal processing, optimization required
79	Software Engineering (Formal Methods, Smart Systems)	Continous Modeling and Validation of Complex Systems with Flexible Refinement	http://research.nii.ac.jp/~f-ishikawa/internships/	Fuyuki Ishikawa	Associate Professor	Master's or PhD students	4	2-6 months	
80	Software Engineering (Smart Systems, Formal Methods, Models@run.time)	Runtime Validation and Configuration of Smart Space Systems	http://research.nii.ac.jp/~f-ishikawa/internships/	Fuyuki Ishikawa	Associate Professor	Master's or PhD students		2-6 months	
81	Computer Vision and Computer Graphics	Computational Photography: Image-based rendering, Image processing, Color analysis, Spectral imaging	http://research.nii.ac.jp/~imarik	Imari Sato	Professor	Master's or PhD students	3	5-6 months	A basic knowledge of computer graphics and good programming skills are required.
82	Database Programming Languages	XQuery Fusion	http://research.nii.ac.jp/~kato	Hiroyuki Kato	Assistant Professor	Master's or PhD students	2	2-6 months	
83	Databases	Clloaborative Data Management Systems	http://research.nii.ac.jp/~kato	Hiroyuki Kato	Assistant Professor	Master's or PhD students		2-6 months	
84	Unmanned Aerial Systems	Development of supervisory control systems for multiple UAVs (Unmanned Aerial Vehicles), or "drones"; Development of UAS Traffic Management system; Development of human-machine interface for supervising UAVs; Implementation of networking and wireless communications for UAVs	www.siliconmountain.jp	Helmut Prendinger	Professor	Master's or PhD students	12	4-6 months	Solid programming and software engineering skills; interest to create reliable and robust software that will be deployed in the real world; interest to go to the "field" and test advanced systems in the real world (http://research.nii.ac.jp/~prendinger/)
85	Deep Learning	Semantic segmentation (pixel-wise labeling), Deep Transfer Learning, etc. using aerial data for digital dynamic map creation	www.siliconmountain.jp	Helmut Prendinger	Professor	Master's or PhD students		4-6 months	Solid programming skills, e.g., C++ and Python. Solid background in machine learning. Longer stay (6 months) is preferred for good result and possibly a publication (http://research.nii.ac.jp/~prendinger/)
86	Deep Learning	Optimization and implementation of Deep Learning model for real-time applications on superchip onboard of drone	www.siliconmountain.jp	Helmut Prendinger	Professor	Master's or PhD students		4-6 months	Solid programming skills. Longer stay (6 months) is preferred for good result and possibly a publication. (http://research.nii.ac.jp/~prendinger/)

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87	Optimization	Study of automated task allocation algorithms and "conflict resolution" algorithms for high-density low-altitude airspace	www.siliconmountain.jp	Helmut Prendinger	Professor	Master's or PhD students		4-6 months	Solid programming skills. Background in optimization is required; Longer stay (6 months) is preferred for good result and possibly a publication (http://research.nii.ac.jp/~prendinger/)
88	Social network-based problem-solving service project	Heterogeneous adhoc Network for Skill sharing	http://research.nii.ac.jp/~andres/official/intern2016_9_1.html	Frederic Andres	Associate Professor	Master's	4	5-6 months	Collaboration with Kumamoto University and Kumamoto communities
89	Big data/Iot Mindflow project	Human Stress Ontology and Mindflow services	http://research.nii.ac.jp/~andres/official/intern2016_9_2.html	Frederic Andres	Associate Professor	PhD		3-6 months	fields of study: Human stress area, ontology, visual patterns, deep learning classification
90	Pedagogy and didactic- driven e-learning	Pedagogically-enhanced e-learning service	http://research.nii.ac.jp/~andres/official/intern2016_9_3.html	Frederic Andres	Associate Professor	PhD		3-6 months	fields of expertise: Bloom's Cognitive domain taxonomy applied to Web-based e-learning service, pedagogy-driven web learning service
91	Big Data/Digital Cooking Recipe	Cooking Recipe Benchmark	http://research.nii.ac.jp/~andres/official/intern2016_9_4.html	Frederic Andres	Associate Professor	Master's		3-6 moinths	fields of expertise: Visual ontology, Big data IR benchmark, Food Classification

4. Information and Society Research Division

No.	Research area	Title of the research	Website	Name of supervisor	Title of the supervisor	Requirements for applicants: Master's / Ph.D. Student	Total number of acceptance per supervisor	Duration : 2-6months (less than 180days)	Comments
92	Interactive Information Retrieval	Understanding and Modeling User Behaviour during Complex Search Task	The current project page has not been set up, but the previous related project page is available at; http://cres.jpn.org/?FrontPage	Noriko Kando	Professor	Either Master and PhD students are fine, but priority will be given to PhD student	2	6 months	The grand target of the project is to propose a mechanism to support the users conducting complex/exploratory search tasks and struggling during search. As a step to tack toward this target, several internship research tasks are prepared as following, but not limited to: 1) enhance the method to assess the "success" of complex/exploratory search outcome based on Concept map and others, 2) investigate user search bahaviour in terms of dwell time, link depth, search trail, , engagement, perceived task difficulty, cognitive task complexity, and/or outcome, 3) investigate the relationship between user's attributes such as domain expertise, task familiarity, time constraint, etc. and the search behaviour and outcomes, 4) building and/or enhancing the tools usable for the above mentioned 1) -3). Any other topic related to this research direction shall be considered.

5. Management and Outside Collaboration on R&D

No.	Research area	Title of the research	Website	Name of supervisor	Title of the supervisor	Requirements for applicants: Master's / Ph.D. Student	Total number of acceptance per supervisor	Duration : 2-6months (less than 180days)	Comments
93	Databases / Data Mining	Similarity Search and Intrinsic Dimensionality	http://zephyr.nii.ac.jp/houlelab/downloads/proj-simsearch.pdf	Michael Houle	Visiting Professor	Master's or PhD students	6	3-6 months	Priority given to PhD students, and for internships of 5-6 months.
94	Data Mining	Outlier Detection and Data Dimensionality	http://zephyr.nii.ac.jp/houlelab/downloads/proj-outlier.pdf	Michael Houle	Visiting Professor	Master's or PhD students		3-6 months	Priority given to PhD students, and for internships of 5-6 months.

List of research topics for NII Intenational Internship Program 2016 2nd Call

No.	Research area	Title of the research	Website	Name of supervisor	Title of the supervisor	Requirements for applicants: Master's / Ph.D. Student	Total number of acceptance per supervisor	Duration : 2-6months (less than 180days)	Comments
95	Data Mining	Clustering and Data Dimensionality	http://zephyr.nii.ac.jp/houlelab/downloads/proj-clust.pdf	Michael Houle	Visiting Professor	Master's or PhD students		3-6 months	Priority given to PhD students, and for internships of 5-6 months.
96	Data Mining / Machine Learning	Unsupervised Feature Selection	http://zephyr.nii.ac.jp/houlelab/downloads/proj-features.pdf	Michael Houle	Visiting Professor	Master's or PhD students		3-6 months	Priority given to PhD students, and for internships of 5-6 months.
97	Data Mining / Machine Learning	KNN Classification and Applications	http://zephyr.nii.ac.jp/houlelab/downloads/proj-classification.pdf	Michael Houle	Visiting Professor	Master's or PhD students		3-6 months	Priority given to PhD students, and for internships of 5-6 months.
98	Theory (Algorithmics, Statistics, Machine Learning)	Theory of Intrinsic Dimensionality	http://zephyr.nii.ac.jp/houlelab/downloads/proj-id-theory.pdf	Michael Houle	Visiting Professor	Master's or PhD students		3-6 months	Priority given to PhD students, and for internships of 5-6 months.