Iori Mizutani

Doctoral Researcher / Industrial Automation / Cyber-Physical Systems / DevOps

Rosenbergstrasse 30, 9000 St.Gallen, SWITZERLAND

+41 78 789 73 22 | iori.mizutani@unisg.ch | iomz.github.io | iomz | iomz | iomz

Summary

I am experienced to design, build, and operate robust and optimized cyber-physical systems with a wide range of knowledge in hardware, software, and networks. My confidence stems from my strong background in developing software using Go, Python, C#, C++, Ruby, and JavaScript with various frameworks and libraries as well as my experiences in server/network infrastructure administration. I am a fast learner in interested fields and good at amalgamating cross-domain technologies to solve problems in an interdisciplinary manner, and thus I highly value collaborations with others. I also enjoy contribution to open-source communities as well as standardization activities, especially fostering industrial approaches to achieve practical improvements.

Education

School of Computer Science, University of St.Gallen & Auto-ID Labs ETH Zürich/HSG

St.Gallen, Switzerland

Dr. Sc. / PhD in Computer Science — *Feb. 2019 - Current*

- Research Topic: "DevOps Integration for Sustainable Development of Dependable Industrial Cyber-Physical Systems"
- Interaction- and Communication-based Systems research group [link]
- Industrial IoT research team in Auto-ID Labs ETH Zürich/HSG [link]
- Selected as the representative first-generation of doctoral students at the School of Computer Science [link]
- Supervision of Master's and Bachelor's theses in both University of St.Gallen and ETH Zürich [link]

Graduate School of Media and Governance, Keio University & Auto-ID Lab Japan

Kanagawa, Japan

Master of Media and Governance (M.M.G.) — *Apr. 2016 - Mar. 2018*

- GPA: 4.0/4.0
- Master's Thesis: "Robust and High Performance RFID Middleware with Entropy Filtering" [link]
- Jin Mitsugi laboratory / Auto-ID Labs Japan. [link]
- Awarded Mori Fund Scholarship from Keio Research Institute at SFC (2017-2018) [link]
- Awarded as the Global Entrepreneurship Global Innovator Program Scholar by the Japanese National Ministry of Education, Culture, Sports, Science and Technology (2016-2017) [link]
- Awarded Japan Student Services Organization Honors Scholarship for graduate studies (2016-2018) [link]

Faculty of Environment and Information Studies, Keio University

Kanagawa, Japan

B.A. in Environment and Information Studies — *Apr. 2011 - Mar. 2016*

- GPA: 3.8/4.0
- Bachelor's Thsis: "A Novel RFID Filtering and Collection Middleware to Accommodate Different International Unique Identifier Standards" [link]
- Jin Mitsugi laboratory / Auto-ID Labs Japan (2013-2016). [link]
- Rodney Van Meter III laboratory / Advancing Quantum Architecture (AQUA) research group (2011-2014) [link]
- Awarded Yamagishi Student Project Support Program Scholarship (2015-2016)
- Awarded Keio University Prize Fellowship (2012)

Bunker Hill Community College

Boston, MA, U.S.A.

A.S. in Computer Science — *May. 2008 - Feb. 2010*

- GPA: 3.5/4.0
- Withdrew without degree due to health problem (Cluster Headache disease)
- Awarded as the international exchange scholarship program representative to Institut Français des Alpes in Annecy, France (2009)
- Awarded in Honorable Dean's list (2009)

Quinsigamond Community College

Worcester, MA, U.S.A.

A.A. in Liberal Arts — *Sep. 2007 - May. 2008*

- Transferred to Bunker Hill Community College

Work Experience

Institute of Computer Science, University of St. Gallen

St.Gallen, Switzerland

Research Assistant — *Oct. 2018 - Current*

- Principal system administrator of the lab with 5 servers, 4 network segments, and over 30 networked devices on the floor of 200 m^2.
- Head of 13 lecturers for the 8-ECTS course "Fundamentals and Methods of Computer Science for Business studies" (for 500+ students)"
- Teaching assistant and assignment design for the 6-ECTS course "Introduction to Computer Systems and Networks" (for 30+ students)

Keio Research Institute at SFC - Keio University

Kanagawa, Japan

Research Associate — *Apr. 2018 - Sep. 2018*

- Robust and high-performance filtering engine and testing framework for ID-based inventory system including RFID and Barcode.
- Distributed EPCIS discovery and accessible framework for cross-border transactions (NEDO project).
- Supervision of several undergraduate/master students' graduation projects in Auto-ID Lab.

Sony Computer Science Laboratory

Tokyo, Japan

System Administrator & Research Assistant — *Apr. 2015 - Mar. 2018*

- Built and deployed overall service infrastructure utilizing Ansible automation and Docker container, focusing on high-availability, fault tolerance, and auto-scaling.
- Committed to various research projects including Smart-Grid energy distribution infrastructure (Open Energy System) prototyping and redundant power supply system design for Sony CSL's data center.
- Operated 7 network segments with 3 different upstreams administrating 30+ appliances for research projects in the lab.
- Integrated LDAP credential to multiple internal services with Websocket communication.
- Designed and developed Sony CSL Open House 2015 Website and registration management system.

Siemens Corporate Technology

Berkeley, CA, U.S.A.

Research Intern at Web of Things Research Group — *Oct. 2016 - May. 2017*

- Designed and implemented a Mixed-Reality user interface prototype for robotic arm assembly on shop floor with Microsoft HoloLens.
- Developed a semantic backend system with industrial vocabularies in Siemens to operate equipment by providing intuitive propagates.
- Developed a middleware adapter for Open Source meta-operating system for robots (ROS) as well as tangible Mixed-Reality user interfaces for intuitive robot arm operation by bridging them to the semantic backend.

Cisco Systems, Inc.

Milpitas, CA, U.S.A

Engineering Intern at Video Distribution and Mobile Network R&D group — *Aug. 2013 - Jul. 2014*

- Conducted portfolio and performance analysis of existing Cloud Stack(including Microsoft Azure, Amazon Web Services, Google Computing Engine, and Rackspace) for building auto-scale online video frame encoders.
- Implemented and demonstrated Home Media Gateway for Video On Demand delivery and IPTV, exhibited in Cisco Live 2014.
- Evaluated multimedia stream quality on on-market hardware devices through LTE Mobile network.
- Demonstrated SDN + vGiLAN technology in Cisco Live 2014: enhancement in LTE network operation by realizing service module chaining (i.e., Deep Packet Inspection, Watermark override, Encryption, Bandwidth capping, etc...).

Internet Initiative Japan Research Laboratory

Tokyo, Japan

Research Assistant — *Sep. 2012 - July. 2013*

- Developed Modbus M2M protocol adapter for Fluentd log aggregator to collect solar radiation sensor data from "freight-container" data center feasibility experiment.
- Developed Docker-based scalable load-balancer of overwhelming sensor data flow.

Keio University

Kanagawa, Japan

Teaching Assistant — *Apr. 2012 - Mar. 2018*

- Mobile Network Theory with Prof. Dr. Jin Mitsugi (2013-2018)
- Data Structure and Programming with Prof. Dr. Jin Mitsugi and Prof. Dr. Osamu Nakamura (2012-2015)
- Big Data Processing with Assoc-Prof. Dr. Keisuke Uehara (2014)
- Exploring Environment and Information Studies with Prof. Dr. Jun Murai (2013)
- Linear Algebra with Dr. Dominic Horsman (Visiting Senior Researcher) (2013)
- Internet Measurement and Data Analysis with Dr. Kenjiro Cho (Visiting Senior Researcher) (2012)
- Computer Architecture with Prof. Dr. Rodney Van Meter III (2011-2013)

Extracurricular Activity

Sake International Traceability Project with DSRI, IBM Japan, Toppan and Daiwa Computer

Japan & Thailand

Software & Hardware Developer and Fieldworker — *2015*

- Built a smart dolly with Antenna, RFID Reader, LED display, and Beagle Bone for automatic inventory of Japanese rice wine.
- Implemented traceability information system for international shipment.
- Conducted experiments on tamper resistant RFID seals readability in various conditions.

EDGE Global Innovation Forum Spring 2015 Workshop

Tokyo, Japan

Lecturer of IoT design and prototyping — *Mar. 2015*

- IoT Workshop design with deployment of 20+ Intel Edison-based microservers with GPIO to actuate servo motors and sensor tags.
- Built data flow control mechanism for participants by MQTT messaging and Node-RED graphical interfaces.
- Built semi-automatic data graphing tool with Graphana and InfluxDB on IBM Bluemix Cloud Platform.

Yaofuji Keio University Agricultural Group

Kanagawa, Japan

Representative — *2011-2013*

- Hosted an experimental farming project: spot-hosting abandoned fields for the locals and education of practical agriculture.
- Produced Edamame beans with a support of local farms and sold at festival markets.