MARAT ZHANIKEEV

network and data, with learning

SKILLS

programming languages

PHP, Java, C/C++	18+yrs
network.prog (any lang)	18+yrs
C/C++/C#/ObjC	18+yrs
javascript, jQuery	15+yrs
Python, VBA	10+yrs
Ruby, Go	5+yrs

phylosophy: pick best fit language

CONTACT

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↓ details in markdown ↓
https://t.ly/zvcd

SUMMARY

A wide-range specialist with a strong base of experience applying **programming languages and technologies**, on popular platforms, **solving practical problems**. On top of that, a deeper understanding of not only the existing problems/solutions in all the related fields, but also solutions which are currently **discussed in research** and are yet to be implemented.

Advanced graduate degrees in **network performance** which included work on active **network probing**, **traffic analysis**, **core/edge clouds**, etc. Followed by several years of research on information systems in **core/edge clouds**, **vehicular networks**, and **smartcity infra**.

Recent and current topics include (1) **bigdata processing** (streaming algorithms), (2) **IoT infra at network edge** and its software implementation, and (3) **contextual AI**. In the same order, as recent examples, implementations in each of these areas took the following forms: (1) **bigdata replay on multicore** with lockfree parallel processing logic and circuit-based bulk network transfer, (2) **content caching** in fog clouds hosted on groups of parked vehicles, (3) a **context-aware chatbot** which uses variable density metromaps instead of decision trees.

WORK EXPERIENCE (newest first)

StrategIT (Tokyo, remote)

2021/04 — now

Software Engineer (part-time)

With the target of cross-service SaaS integration at core, building APIs which could standardize/simplify integration across various services. **Automation** of the various aspects of the related software development is the main part of my involvement.

Specific tasks:

- **nulab Backlog APIs** for project/task management, not limited to software development projects
- **Firebase CLI** and **cloud functions** as an integration hub, not limited to Backlog
- GCP stackdriver monitoring together with Firebase as a **centralized log/event monitoring** platform for cross-platform and cross-service log collection and analysis
- automation in unit testing (jest, mocha, chai), most importantly of **Firebase cloud functions** with non-trivial logic in noSQL data structures
- languages/platforms: javascript/typescript, nodejs, php, GCP, unit testing

Agencia (Tokyo, remote)

2021/01 — 2021/03

Software Engineer (part-time)

A better platform for 360° rotation image (distinct from panorama) content creation and delivery. **A cheap solution** was necessary for the successful B2C platform. Avoiding 3D cameras, and having confirmed that 3D modeling is not yet ready for practical use, a better solution was proposed and fully developed by me. The specific intended market was used car EC but the platform was designed for generic use. An AI component for automatically recognizing hotspots/labels in pictures was considered, researched and tried, but did not make it into the release.

SKILLS

platforms/systems experience

R	15+yrs
WebSockets,Workers,blob	15+yrs
performance analysis	15+yrs
AWS, GCP, Xen, Docker	15+yrs
cygwin, powershell, linux	15+yrs
graphiviz, scientific viz	12+yrs
OS: any, +virtual	12+yrs
OAuth, webhooks	10+yrs
browser addons, headless	10+yrs
Lucene, MongoDB, redis	10+yrs
AutoHotkey, tasker)	10+yrs
Hadoop, Spark	10+yrs
Android apps	10+yrs
RPi, sensors, beacons	8+yrs
TensorFlow,tf.js,opencv	5+yrs
Firebase, Lambda, CLIs	2+yrs

phylosophy: utility then efficiency then flexibility

Specific features researched/proposed and developed by me:

- a smartphone app with **object recognition/grabbing** and **realtime feedback** when taking 16/24/32/48 pictures of an object (used cars)
- preprocessing images for **jitter removal**
- creating a 360° image from sequential pictures, **(4)** a Javascript **viewer with labeling** (hotpots).

IBC (Tokyo, Japan) — 2010/10 — 2011/03

Software Engineer (part-time)

Processing and visualizing large aggregates of datacenter traffic. Port mirroring, **multicore processing** at full ethernet rates of 1Gbps – 10Gbps, with the practical target of realtime profiling and visualization of **group communication patterns**.

Specific implemented tasks:

- capture at full 1Gbps 10Gbps rates, using **PF-ring Linux module** for efficiency boost, related C/C++ software
- **shmap and DLL** structures, efficient **lockfree polling logic** for full rate flow analysis
- efficient **browser visualizations** with realtime streaming data (web sockets)
- languages/platforms: C/C++, PHP, R, linux kernel programming, network stack, web sockets, workers, multicore parallel processing

Hakusan Engineering (Fuchu, Tokyo) — 2005/04 — 2010/03

Software Engineer (part-time)

Development of on-board and server-side software for earthquake sensors (accelerometers). On platform side, processing (indexing, search) large volumes of collected earthquake data. On-board, minimalistic web servers and web APIs for data collection. A separate large project on assessing **how earthquakes affect buildings** using a population of sensors spread around the building.

Specific subprojects:

- **visualizing spread of earthquake** via large-scale population of sensors, in real-time
- efficient access to sensor data via on-board processing
- resilient on-board software (caching, retransmits, verification)
- measuring and **modeling buildings** before/after earthquakes
- languages/platforms: C/C++, PHP, python, R, graphviz, gnuplot, javascript/jQuer

Daewoo Telecom (Tashkent, Uzbekistan) — 1996/10 — 2000/06

Switching Engineer (full-time)

Installation and testing of **digital switching equipment**. Optical fiber installation and testing.

ACADEMIC EXPERIENCE (newest first)

Kanazawa Gakuin University — 2020/04 — now

Associate Professor, Faculty of InfoEconomics

Development of new computer science / information technology curriculum. Education on **IT-related certification exams** (starting from IT passport, and above). All teaching done in Japanese.

- **classes:** Programming, Information Processing, Computer Literacy, Artificial Intelligence
- **lab:** undergraduate seminars and graduate research, 5 students on average each year

EDUCATION

2003/09 — 2006/08

PhD in Information Networking

Waseda University (Tokyo, Japan)

With the central theme of **network performance**, various active and passive methods for measurement performance both in theory and in practice. On active side, various methods for **probing network** with dummy packets or as part of normal operation of network applications. On passive side, **packet capture** and processing, where my work mostly focused on efficient/realtime research targets.

2001/09 — 2003/08

M.Sc. in Information Networking

Waseda University

The core topic was **network management**. Within it, found and deepened focus on **performance measurement** which grew further in my PhD research.

1993/09 — 1997/08

B.Sc. in Engineering

Tashkent State Technical University (Uzbekistan)

Faculty of Automation and Control (ASU in Russian). Standard curriculum on **electric and electronic engineering**, control theory and applications, and the related subjects. In graduation research, conducted a study on programmable RAM chips.

Tokyo University of Science (TUS)

2020/04 — now

Part-Time Lecturer

All teaching conducted in Japanese.

- **classes:** Artificial Intelligence, Information Processing

Tokyo University of Science (TUS)

2016/04 — 2020/03

Associate Professor, School of Management

Development of PBL- and innovation-based education program with stress placed on information technology. New Developed a program on **innovation in PBL style** implemented as a **scrum development** process (as in software development). All teaching done in Japanese.

- **classes (undergraduate and graduate):** Programming, Information processing, Artificial Intelligence, Scientific Optimization, Calculus, Statistics, Problem-Based Learning (PBL), Data-Driven Analysis
- **lab:** 20+ undergraduate and 3-5 graduate students each year.

University of Tsukuba (Tokyo)

2014/04 — 2016/04

Part-Time Lecturer

Intensive courses on cloud and datacenter technologies with hands-on implementation and testing.

Kyushu Institute of Technology (Kyutech) (Iizuka, Fukuoka)

2013/04 — 2016/03

Associate Professor, Faculty of Computer Science and Systems Engineering

A fixed-term graduate-level only MEXT program on career development for new technologies (**enPiT**), specifically on cloud computing and software development. Active exchange programs with other universities participating in the project and industry (NTT-AT and NTT-Data as main collaborators). All teaching done in **PBL style**, using **facilitation-enhanced spaces**, and fully in Japanese.

- **classes:** Cloud Application Development, Operating Systems and Virtualization, Software Development, Problem-Based Learning (PBL)
- **lab:** 2 PBL teams = 10 graduate students each year

Waseda University (Tokyo, Japan)

2013/04 — 2013/08

Part-Time Lecturer, School of Engineering

All teaching done on English, graduate students only.

- **classes:** Information Theory

Tokyo University of Science (TUS)

2011/04 — 2013/03

Assistant Professor, School of Industrial Management

Was in charge of development of **practice/lab related classes** in which students would practice applying modern industrial technology (beacons, wireless infra, sensors, etc.). All teaching was done in Japanese.

- **classes:** Calculus, Information Processing, Programming, Performance Management
- **lab:** an assistant advisor to 10+ undergraduate and 5+ graduate students each year

Waseda University
2011/04 — 2011/08

Part-Time Lecturer, School of International Liberal Arts (SILS)

All teaching conducted in English. Undergraduate education only.

- **classes:** Information Literacy, Information Society, Web Programming, Information Networking, Calculus, Statistics

Waseda University
2007/09 — 2011/03

Assistant Professor, School of International Liberal Arts (SILS)

Was in charge of the **information-related classes, math and statistics** related teaching and the related entrance exams. All teaching and lab activities were conducted in English. Undergraduate education only.

- **classes:** Information Literacy, Information Society, Web Programming, Information Networking, Calculus, Statistics

Waseda University
2003/04 — 2007/03

Research Associate, Faculty of Computer Science and Systems Engineering

Was in charge of **networking equipment**, SINET (research network) access network, and other faculty-wide activities.