Ramazan Abdikarimuly

CONTACT INFORMATION	Daejeon, South Korea +82 010 4281 8980 ramazan.abdikarimuly@nu.edu.kz
RESEARCH INTERESTS	Computer Vision, AI on Edge, Hardware and Embedded System Design and Robotics

EDUCATION

KAIST, Daejeon, South Korea　　　　　　　　　　　　　　　　2020-Present
MSc in Electrical Engineering
- Member of Smart Sensor Architecture Laboratory
- Research area: Computer Vision
- CGPA = 3.70/4.33

Nazarbayev University, Astana, Kazakhstan　　　　　　　　　　2014-2018
BEng in Electrical and Electronic Engineering
- CGPA = 3.47/4.00

Nazarbayev Intellectual School, Astana, Kazakhstan　　　　　　　2014
High School Diploma
- CGPA = 5.00/5.00
- Unified National Testing (UNT) = 125/125

EXPERIENCE

Senior Electronics Engineer　　　　　　　　　July 2019 - February 2020
ReLive, Astana
- Responsible for electronics system design of robotic exoskeleton and smart lock, including PCB design in Eagle and firmware programming in Python/C++.

Research Assistant　　　　　　　　　　　　　July 2019 - February 2020
Nazarbayev University, Astana
- I worked on different hardware projects at the laboratory of Professor Prashant Jamwal. I was responsible for designing and developing electronics, including PCB design in Eagle and firmware programming in Python/C++.

Hardware Engineer　　　　　　　　　　　　February 2019 - November 2019
BI Innovations, Astana
- Responsible for hardware design in Smart Home project for BI Group, fully designed and developed electronic devices including embedded system design, PCB design and testing in Eagle, firmware development in C++/HTML/JS/CSS/Python, communication channel development on Modbus/RS485/RS232/LoRa/WiFi/BLE and enclosure design in Fusion.

IT Advisory Intern　　　　　　　　　　　　August 2018 - January 2019
Ernst and Young (EY) Kazakhstan, Astana
- Responsible for researching IT solutions, assisting in evaluating the solutions, learned basics of ITIL/COBIT5, and Robotic Process Automation (RPA) implementation in Blue Prism

Hardware Engineer　　　　　　　　　　　　July 2018 - September 2018
Game of Drones, Astana
- Worked for a start-up company at Astana Hub, international IT and startup

hub in Kazakhstan, primary responsibilities were implementing Internet of Things and Web Developing for IoT systems

Intern   June 2018 - July 2018

MethodPro School, Astana

- Attended Summer School for learning Front-End Development (JavaScript, HTML, CSS), basics of Business Analysis in IT (Agile, Waterfall)

Research Assistant   June 2017 - July 2017

Sasaki Laboratory,

Graduate School of Frontier Sciences The University of Tokyo, Kashiwa

Supervisor: Ken Sasaki, Ph.D The University of Tokyo

- Studied the attenuation between on-body transmitter and stationary receiver for capacitive coupling electrodes for various parameters

Research Assistant   August 2015 - May 2017

NU Power Electronics Research Group,

Nazarbayev University, Astana

Supervisor: Alexander Ruderman, Ph.D Leningrad Polytechnic Institute LPI (St. Peterburg Polytechnic University)

- Studied the current total harmonic distortion (THD) for multilevel inverters wit filters

Research Assistant   May 2016 - July 2016

Power Electronics and Photovoltaics Laboratory,

University of Bologna, Bologna

Supervisors: Gabriele Grandi, Ph.D University of Bologna

- Worked on experimental part of my research work done at NU Power Electronics Research Laboratory, simulated the circuit in Simulink, and assembled single-phase inverter with LCL filter and verified simulation results

SKILLS   **Technical Skills**

Python, C/C++, Java, Matlab, OpenCV, Android Development, PCB Design, 3D Modelling, PSIM, LTSpice, Web Development, FPGA and Electronics Hand Skills

Languages

Kazakh - Native or Bilingual Proficiency

Russian - Native or Bilingual Proficiency

English - Full Professional Proficiency

Korean - Elementary Proficiency

PUBLICATIONS

1. R. Abdikarimuly, Y. L. Familiant, A. Ruderman and B. Reznikov, "Calculation of current total harmonic distortion for a single-phase multilevel inverter with LCL-Filter," 2016 IEEE International Power Electronics and Motion Control Conference (PEMC), Varna, 2016, pp. 63-68.

2. R. Abdikarimuly, A. Ruderman and B. Reznikov, "Calculation of current total harmonic distortion for a three-phase two-level inverter with LCL-filter," 2017 19th International Conference on Electrical Drives and Power Electronics (EDPE), Dubrovnik, Croatia, 2017, pp. 100-105.

PROJECTS

Exoskeleton glove for control of paralyzed hand of a patient with spastic cerebral palsy May 2018

Nazarbayev University

TOM: Makeathon

The project was developed during the makeathon organized by Tikkun Olam Makers (TOM): Kazakhstan. Exoskeleton glove was developed for a patient with spastic cerebral palsy, whose right hand was in constant contracted state. For the control of paralyzed hand to have an effect of physiological treatment, the concept of repetitive movement was implemented. Thus, exoskeleton glove on the paralyzed hand was controlled by the flex sensors on the functional left hand. The exoskeleton itself was printed in a 3D printer and was controlled both by bluetooth and radio transceivers.

Wireless Channel Modeling and Analysis of Body-Area Communication Networks May 2018

Nazarbayev University

Capstone Project

Supervisor: Behrouz Maham, Ph.D University of Oslo

The project considered the problem of the body-to-body interference when several people wearing the same kind of WBAN devices were in close proximity. The performance metrics of the system were analyzed by both homogeneous Nakagami-m channel modeling and incorporation of Nakagami-m and Rayleigh channel modeling. Moreover, the effect of a relay scheme in WBAN is considered. Finally, analytical results are confirmed by simulations, which buttressed their accuracy.

Simulation of Greedy Heuristic Method to Maximize Revenue in Multicast D2D Networks April 2018

Nazarbayev University

Numerical Optimization Techniques Course Project

As a course project, greedy heuristic algorithm was studied and was applied for optimization problems. Existing multicast D2D scheme from a paper was considered, and greedy heuristic method was used to find the maximum profit and number of satisfied users in network. Besides, two more algorithms introduced in the paper was simulated in Matlab.

Time Spread On-Off Keying (TS-OOK) for THz communications Dec 2017

Nazarbayev University

Digital Communication Course Project

The application of Time Spread On-Off Keying (TS-OOK) in THz communication was studied, and its optimization was proposed. The method of decreasing hamming distance of a message was proposed to minimize energy and Bit Error Rate (BER), which was confirmed by Matlab simulations.

Experimental study of the performance of human body communication with capacitive coupling electrodes July 2017

Graduate School of Frontier Sciences The University of Tokyo
Summer Internship Project
Supervisor: Ken Sasaki, Ph.D The University of Tokyo
The attenuation between on-body transmitter and stationary receiver was studied for capacitive coupling electrodes for various parameters. The main parameters were electrode arrangement, size, distance from the receiver and height of GND electrode.

EvoEye Security System Dec 2016
Nazarbayev University
Embedded Microcontrollers Course Project
IP camera based security system based on two sensors was built by using Atmega328 microcontroller. The system detects the position of a door and movement afterwards, and if the response is positive, IP camera takes a photo and sends it to an email and phone of an owner. Therefore, magnetic reed switch and IR motion sensor were used. Ethernet module was used to connect the microcontroller to the Internet.

SOCIAL	Member of NU Kpop Cover Dance Club	September 2017 - Present
ACTIVITIES	Program Manager of NU IEEE Student Chapter	February 2017 - May 2017
	Member of Student Ministry of	February 2016 - May 2016
	Research and Innovations	
	Member of NU Theater and Drama Club	February 2015 - May 2015
	Leader of "NU Fixers" team in case competition by P&G	February 2015