

Bauyrzhan Zhakanov

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ABOUT ME

As a roboticist, I've always been motivated by innovative and creative projects with teamwork with 4+ years of work experience. Skilled in software development, machine learning, and control systems. Strong analytical and problem-solving skills with a passion for developing innovative solutions to complex challenges.

EDUCATION

- **Master's Degree in Robotics Engineering:** *Expected:* Oct. 2023
University of Genoa, Italy
- **Bachelor of Science in Robotics and Mechatronics:** *Graduated:* Jun. 2021
Nazarbayev University, Kazakhstan

SKILLS

Programming skills: Python, C, C++, C#, PDDL+

Libraries: PyTorch, Tensorflow, OpenCV, numpy, pandas, scikit-learn, Flask, FastAPI

Tools: ROS and ROS 2, Gazebo/RVIZ, moveit, IEC 61499, Google Cloud, Microsoft Azure, Ubuntu / Linux, git, bash, VM, docker

WORK EXPERIENCE

- **CYENS** Nicosia, Cyprus
Computer Vision Intern *Sep 2022 - Dec 2022*
 - **Computer Vision:** Developed computer vision solutions including image classification, object detection, and segmentation. Integrated ML applications into gstreamer pipelines using embedded systems
 - **Teamwork:** Collaborated with cross-functional teams to deliver tasks on times. Conducted regular code reviews with project members
- **Aalto University** Espoo, Finland
Graduate Research Assistant *June 2022 - Sep 2022*
 - **Development:** Designed and built cloud infrastructure for a variety of applications using Microsoft Azure. Improved infrastructure efficiency by connecting the system with cloud services for implementing cost-saving measures using IEC 61499.
- **TengriLab** Astana, Kazakhstan
Junior Computer Vision Engineer *Jan 2021 - May 2021*
 - **Computer Vision:** Assisted in the development and implementation of computer vision solutions for a variety of applications. Worked on image classification and object detection projects using deep learning techniques.
 - **Cloud and Web services:** Coded an API to integrate the model with webservices. Conducted the project with front end developers for deployment.
 - **Hardware:** Collaborated with team of hardware engineers to build and test the system.
 - **Project Management:** Controlled the flow of equipment and the working process.
- **Nazarbayev University** Astana, Kazakhstan
Undergraduate Research Assistant *May 2019 - Sep 2021*
 - **Publication:** Published an article to IEEE ICIT 2021 conference conducted in Valencia, Spain.
 - **Deep Learning:** Tested various state-of-the-art papers about visual odometry for machine vision system. Trained and worked on deep learning projects using Pytorch and OpenCV.
 - **Teamwork:** Collaborated with students and professor to deliver tasks on time and within provided budget.

PROJECTS

- **Robot Patrol using ROS Smach and Ontology:** An Ontology based project using Protege platform for making a robot planner around the map using ROS, smach, moveit, OpenCV. [Link to project](#)
- **Multi-Floor navigation using ROS 2:** A navigation based project using ROS 2, Nav2 and Gazebo.
- **Mobile Robot Simulation:** A python code using Moveit framework to manage the process in motion planning. [Link to project](#)
- **Drone Field Simulation:** A project to simulate the variety of drone movement using Socket in C language. [Link to project](#)
- **Driver Distraction and Drowsiness Detection:** A CNN model for image classification on a dataset of 20,000 images and OpenCV face image analysis. [Link to project](#)

PUBLICATIONS

- **Zhakanov, B.:** Abilkassov, S., Kaigaliyev, B., Abibullaev, B. (2021, March). A System For Drivers' Cognitive Load Estimation Based On Deep Convolutional Neural Networks and Facial Feature Analysis. In 2021 22nd IEEE International Conference on Industrial Technology (ICIT) (Vol. 1, pp. 994-1000). IEEE.

VOLUNTEERING

- **Kazakh Khan Academy:** Translated and dubbed a math tutorials for children from English to Kazakh.
- **Microsoft Digigirlz 2019:** Organized an event for young girls to make Robot's Hand
- **Work and Travel USA 2018:** Participated in the program for cultural experience and exchange in New York, USA
- **EXPO 2017 Astana, Kazakhstan:** Worked as a staff exhibitor to represent green technologies

CERTIFICATES

- **Aalto Work Certificate 2022:**
Helsinki, Finland
- **IEEE ICIT 2021:**
Valencia, Spain
- **Machine Learning School 2020:**
Innopolis, Russia

REFERENCES

- **Reference 1:** Dr. Carmine Recchiuto
Contacts: carmine.recchiuto@dibris.unige.it
- **Reference 2:** Dr. Almas Shintemirov
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- **Reference 3:** Dr. Berdakh Abibullaev
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