Denis Bakin

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About me

I am searching for an internship in computer vision and machine learning. As a motivated and detail-oriented student with a strong background in applied mathematics and programming, I love working on real-time computer vision projects and developing software solutions. I am always eager to learn, grow, and contribute to innovative projects in robotics and AI.

Skills

Technologies: C++, Python, PyTorch, OpenCV, ROS2, Docker, Git, GitHub Actions

Languages: Russian (native), English (C1)

Education

Higher School of Economic, Aplied Mathematics and Informatics   Sept 2022 – Present
- Specialization: Machine Learning and Applications

Professional experience

HSE Robotics Laboratory, Student ⧉   July 2023 – May 2025
- Worked on computer vision project "Handy" to detect and track table tennis ball in real-time
- Implemented a CI pipeline with GitHub Actions for the Lab's projects

Projects

Handy   GitHub ⧉
- Team project for HSE Robotics Laboratory to detect and track table tennis ball in real-time
- Tools Used: Python, OpenCV, PyTorch, ROS2
- Implemented a pipeline to read, syncronize and publish images from high-speed cameras
- Developed a calibration pipeline to obtain intrinsic parameters and perform stereo calibration (pinhole camera model was used)
- Developed a visualization tools for the project (official ⧉ and full ⧉ demo)
- Implemented efficient inference of detection and segmentation models with TorchScript

TouchAndGo   GitHub ⧉
- High school graduation project aimed at helping visually impaired individuals navigate
- Developed a calibration pipeline for both internal and external calibration of a stereo camera pair
- Generated depth maps from the stereo pair to simulate basic 2D "Lidar" data, which was then used to control vibrating motors on a wearable belt

Teaching

HSE Lyceum, Computer Science Teacher (C++, Algorithms and Data Structures)   Sept 2024 – Present
- Designed and developed a variety of programming problems
- Created comprehensive teaching materials and resources to support student learning
- Prepared and conducted exams to assess student understanding and progress
- Assisted in developing programming problems for the enrollment examination process

Private Practice, Tutor   Sept 2022 – Present
- Mathematics, programming and computer science tutor for high school students
- State exam preparation for high school students