Alex Volodarsky

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Languages: Native Hebrew and Russian; Professional English

SKILLS & COMPETENCIES

- Image processing
- Deep learning (TensorFlow)
- Camera calibration / Stereo calibration
- Background in Multi-view geometry
- Image segmentation
- NLP fundamentals
- Time series forecasting fundamentals.
- Feature extraction
- Pose estimation (2D/3D)
- 3D Stereo camera (Luxonis, Intel)
- LIDAR 360
- SLAM
- Arduino, Raspberry pi, Jetson
- Fundamental familiarity with Unity and Unreal Engine.
- OpenCV, Open3D (Point cloud)
- ROS2 fundamentals

Tools

Programming languages: Python, C/C++, C#, MATLAB, System Verilog, Assembly

PROFESSIONAL EXPERIENCE

Eyelight technologies – *Senior Computer vision engineer; Be'er Sheva* 2022 – 2023

- Led the early-stage development of a computer vision project, resulting in a successful Proof of Concept (POC).
- Optimized calibration and processing for the stereo camera to achieve millimeter accuracy, developed depth estimation for real-time 3D cameras, and successfully translated the data into a 2.5D map.
- As a key member of the team that developed a novel 2.5D screen, I led both hardware and software domains from the research phase to a functional prototype, encompassing algorithm creation, code development, and hardware design.
- As a significant member of the research and development team for a new actuator, I contributed to simulations, conducted physical calculations, and oversaw prototype construction, culminating in a technology that refines physical size and dramatically cuts power consumption compared to existing solutions.

Israeli Aerospace Industries – *Integration and Validation engineer; Yahud* 2019 – 2022

- Collaborated on the integration and validation of software and hardware components for aerospace systems, ensuring system robustness and reliability.
- Contributed to debugging multidisciplinary systems, utilizing a deep understanding of software structures and hardware mechanisms.
- Managed networking and administration tasks within a large-scale laboratory environment, ensuring efficient operations and connectivity.
- Conducted data analysis, synthesized findings, and meticulously documented test outcomes.
- Collaborated on the development and execution of validation tests to ensure system reliability.

LEADERSHIP EXPERIENCE

Shenkar collage – *Lecturer assistant; Ramat Gan* 2021 - 2022

- As an instructor for Electronics 1 and 2 courses, including an introduction to VLSI, I developed study materials, conducted frontal lectures, and managed assignment preparation and grading. Additionally, I enhanced student comprehension through the creation of simulations and the utilization of LT Spice.

Alstom – *Technical team leader; Tel-Aviv* 2014 - 2019

- As the Team Leader of the IC3 Train Maintenance Complex, I managed a nationwide technical team to swiftly address complex system faults, resulting in optimized resources and minimized system disruptions.

Israeli Air Forces – Aircraft *Technical team leader; Tel-Aviv* 2010 - 2014

- As the team leader of F-16 aircraft electricians, I oversaw post-accident maintenance and overhaul tasks, ensuring the safety of the crew.

EDUCATION

Open University – Israel 2023 - now

M.Sc. Computer science

Shenkar College – Ramat Gan 2018 - 2021

B.Sc. Electrical & Electronic Engineering (GPA 94/100)

Concentrations: Robotics & VLSI

Final Project: Developed an autonomous mobile robot using a Linux based SBC to assess room acoustics. Utilized signal processing techniques like Exponential Sweep Sine for reverberation time analysis, alongside lidar and ultrasonic sensors to measure room volume. Implemented SLAM for 2D mapping and provided acoustics improvement recommendations.

Holtz College – Tel-Aviv 2008 - 2010

Practical Engineer in Electronics and Computers

Concentrations: Computers & Communication

Final project: Developed a smart system utilizing the 89S51 microcontroller, involving C programming, and creating an embedded circuit integrated with sensors and actuators.

MISCELLANEOUS

Software

- Linux
- Git
- Virtual Machines, WSL
- 3D modelling (Fusion 360, SolidWorks)
- Markdown

Hardware

- PCB design with KiCAD
- Experience in controlling motors and actuators.
- Experience in controlling Sensors.
- SPICE simulations with LT Spice
- Oscilloscope / Spectrum analyzer/ Logic analyzer
- 3D printing