Gabriel Entov

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Education: Worcester Polytechnic Institute

Bachelor of Science: Electrical and Computer Engineering, Robotics Engineering — May 2019, **GPA: 3.85/4.0**
Master of Science: Robotics Engineering — Dec 2020, **GPA: 4.0/4.0**

Programming Languages: C,Python, C++, Arduino C, Java, MATLAB, IDL, Bash
Hardware: Electrical Circuits (op-amps, transients, transistors, etc), STM32, PIC, Arduino, & Raspberry Pi
Other: FreeRTOS, Zephyr RTOS, LTspice, Mentor Graphics, Multisim, Fusion 360, SICK Flexi-Soft Designer, LabVIEW
Languages: Fluent in Russian, Proficient in Spanish

Work History (More Listed on LinkedIn)

Embedded Systems Software Engineer II at Vecna Robotics — **Dec 2020 - Current**
Embedded Systems Software Engineering Intern at Vecna Robotics — **May 2019 - Aug 2020**

- Designed and implemented (C++) firmware architecture for a brand new platform from the ground up
- Wrote firmware to control different degrees of freedom on the robot
- Developed automated tools to load firmware to all devices on the robot at once for technicians
- Wrote drivers for CAN/CANOpen, I2C, and SPI devices
- Developed an automated system (both hardware and software) to thoroughly test and diagnose issues on the brains of the robots.
- Developed software tools to diagnose issues with robot's safety system remotely in real-time, without having to go on site.
- Implemented low-level sensor fusion using extended kalman filter (EKF) to give a better estimate of robot pose
- Developed auto calibration routines for steering and lift mechanisms
- Resolved firmware issues and made improvements to existing products
- Mentored interns and worked with them on concepts such as: PID, CANOpen, RTOS, Object Oriented Programming

Electrical Engineering Intern at Sensata Technologies — **May 2018 - Aug 2018**

- Developed circuitry and wrote firmware (C) for test equipment in order to test new sensors
- Developed GUIs (both for Windows and portable test box)

Embedded Systems Intern at MITRE — **May 2017 - Aug 2017**

- Developed firmware for back-end of GPS application in C++
- Developed drivers for new hardware to work with existing frameworks

Projects (More Listed on LinkedIn):

DORA: Graduate Capstone Project — Miniature Warehouse Robot

- Developed all firmware for small robot platform in simulated warehouse environment
- Robot could navigate to a small bin on a shelf, pick it up, and return to the user. It could park itself once it was finished
- Communicated with the User Interface (to choose 'pallet' in warehouse) over UDP

Kinisi: Undergraduate Senior Capstone Project — Autonomous Offroad Vehicle (1st Place, ECE WPI)

- Lead Electrical Engineer responsible for circuit design and all firmware
- Developed the communication network between nodes, as well as control algorithms responsible for vehicle actuation
- Helped develop path planning and trajectory tracking algorithms, as well as made minor mechanical improvements

Autonomous Robotic Tasks:

- Programmed 3 degree of freedom arm to complete autonomous sorting tasks using computer vision and MATLAB
- Used Gazebo, rviz, and ROS to program a robot to explore its environment, map it, and used A* to return to home

Leadership and Awards:

Recruitment Officer for Rho Beta Epsilon, VP of WPI Club Tennis, ECE Capstone Lead, Eta Kappa Nu, and Tau Beta Pi