Gera Groshev

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Education

University of California, Berkeley | B.S. EECS | Dec 2017 **Cumulative GPA:** 3.8

Cosumnes River College | A.S. Electrical/Computer Engineering/Math | May 2015

Technologies: **C, C++, Python, Java, MIPS, Swift, LabVIEW**, ARM ISA, Scheme, SQL, HTML, CSS, jQuery, OpenCV, OpenMP, SSE
Interests: Internet of Things, Embedded & Autonomous Systems, Wearable & Mobile Devices, Swarm Robotics, Computer Vision

Relevant Courses

Spring 2017: Operating Systems, Communication Networks, Digital Signal Processing

In Progress: Aritifical Intelligence, iOS Development, Embedded Systems, Signals and Systems

Completed: Designing Information Devices and Systems I&II, Data Structures, Machine Structures, IEEE Micromouse Robotics, Discrete Mathematics and Probability Theory, Structure and Interpretation of Computer Programs

Select Projects

WiiMote Computer Gesture Control – In Progress
- Implementing a gesture recognition system using Nintendo WiiMote. Sampled data is classified as gestures.

Pacman Agent AI – In Progress
- Developing an AI to control autonomous agents in a Pacman world using adversarial search, probabilistic inference, and reinforcement learning.

Voice Controlled Robotic Vehicle – UC Berkeley – March 2016 – May 2016
- Designed and implemented a small speech controlled mechatronic vehicle
- Implemented speech recognition using Machine Learning algorithms and training techniques
- Implemented the controller using state space and linear feedback modeling

Bear Maps Raster and Route AI – UC Berkeley – April 2016
- Used a quadtree for map rastering and used lazy loading to load high resolution map tiles in response to zoom
- Parsed the OSM XML copy of OpenStreetMap database and implemented the AI to find shortest route

Text Editor – UC Berkeley – February 2016 – March 2016
- Implemented a combination of data structures for efficient text buffering, rendering, cursor movements, insertion and deletion, undo and redo operations, and scrolling
- Used JavaFX API for the GUI, positioning of text objects, and file processing

SMUD Solar Regatta – Sacramento, CA – November 2014 – May 2015
- **Awards**: Judge's Choice, Best Technical, Best Design, Most Artistic, Best Video
- Led the electrical and controls design team in the design of a solar powered boat for a solar regatta competition.
- Designed an autonomous sun tracking device and algorithm. Used Arduino microcontroller, motors, and sensors.

Experience

Lab Assistant for Data Structures (CS 61B) – UC Berkeley – May 2016 - August 2016
- Provided guidance to students taking the Data Structures course at UC Berkeley

Principle Course Designer – Sacramento, CA – May 2016 - August 2016
- Organized and wrote material and mini projects for electrical circuits and applications in module format for self-learning to prepare future SMUD Solar Regatta Competitors
- Ideas included: C++ programming for Arduino, basic circuit analysis, switches and relays, circuit design
- Mini projects included: Algorithm for a password controlled locking device and stepper motor controller

Lithium Battery Undergraduate Research – Tennessee Tech University **–** June 2015 - August 2015
- Worked with faculty to discover the potential of current Li-based technologies
- Formulated chemical compositions for the electrodes of Li-S batteries
- Performed cycle testing, material analysis using x-ray diffraction, assessed limitations, and reported and presented discoveries at several events

Accomplishments

- **SMUD Solar Regatta:** Judge's Choice, Best Technical, Best Design, Most Artistic, Best Video
- **Solar Powered Trash Compactor:** Excellence in Engineering Award, Best Energy Award, Top 3 in Engineering, $5000 grant
- **MESA Scholarship** • **President's Volunteer Service Award** • **Best Video Game**
- **MTHS Industrial Technology Departmental Award** • **MTHS Design and Technology Academy Scholarship**