Alexander Ov

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Objective

Highly motivated software engineer seeking opportunities to employ my skills in the design of impactful apps in the US.

Skills

C# | C++ | C | SQL | Python | PHP | Vivado | Git | JavaScript | Arduino | Verilog | OOP | FPGAs | Microcontrollers | Sensors | Agile

Education

Computer Engineering, B. S **California State Polytechnic University, Pomona** **GPA: 3.12** **08/21 – 05/24**

Relevant Coursework: Data Structures and Algorithms, Discrete Structures, Operating Systems for Embedded Applications, Computer Architecture, Software Engineering, Network Forensics, C/C++, Advanced Digital Circuit Design with Verilog

Professional Experience

Mechatronics Lead Engineer **BANSHEE UAV** *Pomona, CA, USA* **08/23– Present**

- Lead a team of engineers to devise, develop, test, and maintain a robotics arm system to extract and store LiPo batteries.
- Developed DC motor control algorithm improving the system's accuracy, speed, and efficacy by 30%.
- Developed an algorithm to autonomously detect motion, reducing debugging time by 200% and motor stalling by 10%.
- Taught and created a git guide for team members new to version control.

Backend Engineer **Icebreak** *Pomona, CA, USA* **08/23– Present**

- Implemented a social media platform that connects university students to their associated clubs' events.
- Developed fundamental CRUD API routes for events using JavaScript with Prisma.
- Created error and exception handlers to prevent bad user requests to enhance user experience.
- Wrote documents detailing the goal, design, and implementation of ideas to facilitate communication and collaboration.

Software Engineer **Smart Irrigation System** *Pomona, CA, USA* **01/23-05/23**

- Developed a smart irrigation system using sensors, LCD displays, and relays to control outputs based on input readings.
- Integrated temperature sensors, moisture sensors, and photoresistors with a microcontroller to monitor sensor readings.
- Programmed microcontroller algorithms in C++ to control pumps based on sensor readings for individual plant watering.
- Designed and implemented a continuously rotating state LCD display to show sensor data and system status.

Embedded Systems Engineer **Shift Cipher Encryption FPGA** *Pomona, CA, USA* **08/22– 01/23**

- Implemented an encryption algorithm in Verilog using interface data, user defined shift amount and input switches.
- Defined the shift itself by the onboard switches, giving the user the ability to choose the shift amount and direction.
- Produced encrypted data written to RAM, then processed by the VGA module displaying encrypted data in real-time.
- Wrote a Python script to automate implementation of new characters to the ROM list.
- Documented the design process for a Caesar cipher using IEEE reports, presentations, and UML diagrams.

Academic Director **Magikid Robotics Lab** *Diamond Bar, CA, USA* **03/20-06/23**

- Led 4 teams to World Championships winning awards by teaching PID and algorithms increasing robots speed by 60%.
- Improved programming literacy by 30% by developing curriculums that use Python, JavaScript, and design principles.
- Increased female enrollment by 25% during the spring semester by leading workshops that introduced girls to coding.
- Collaborated with teams to develop and execute joint projects.
- Streamlined research saving 60% of analysis time using a custom web scraper that analyzed data, trends, and patterns.

Certifications/Honors

- Additive Manufacturing State Champion, SkillsUSA
- Autodesk Inventor Certification, Autodesk
- Electronics, Engineering Principles, Engineering Technology, Manufacturing Technology, and Robotics Certifications from Certiport