

# EVAN ALEKSEYEV

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evan-alekseyev

ealekseyev.github.io/portfolio

@ealekseyev

## Education

- **San Jose State University**  
*Bachelor of Science in Computer Engineering, Senior Standing* San Jose, CA  
Expected May 2026
- **West Valley College**  
*Associate of Arts in Science & Mathematics, Dean's List* Saratoga, CA  
GPA: 3.85

## Experience

- **Mechatronics Engineer** Sep 2025 –  
*Beagle Technology, Inc* Dublin, CA
  - Sole owner of embedded firmware (C++): rewrote entire IOBoard codebase to support 4 PCB revisions, 2 machine types, and 12-channel relay control with CAN bus communication to Nvidia Jetson
  - Built remote MJPEG streaming service and fleet monitoring dashboard (Python/Streamlit/MongoDB) with GPS tracking, real-time device health, and query optimizations reducing load times by 90%
  - Shipped computer vision bug fixes and PID tuning directly to automated pruning machines operating at customer sites
- **Web Developer** Jul 2024 – May 2025  
*BikeBox* San Jose, CA
  - Designed and developed e-commerce platform for used bicycle parts using LAMP stack
  - Deployed full-stack application with DB integration and responsive design
  - Saved client over 10% per transaction compared to eBay
- **Computer Technician** Mar 2022 – Aug 2024  
*West Valley-Mission Community College District* Saratoga, CA
  - Managed inventory with SCCM, JAMF, and Active Directory
  - Developed automation scripts for imaging and deployment
  - Supported printing, networking, and subsystem issues for 200+ systems

## Technical Skills

**Programming:** C++, Python, Java, JavaScript, PHP, Verilog HDL, x86/ARM Assembly, CSS

**Tools:** Git, PyCharm, CLion, PHPStorm, Linux, PyTorch, TensorFlow, LAMP Stack

**Hardware:** Circuit Design, Soldering, 3D Printing, CAD, Fusion360, LTSpice, Vivado

**Technologies:** ROS, QEMU, ESP32, Arduino, Raspberry Pi, SCCM, JAMF, AD

**Languages:** English (Fluent), Russian (Fluent)

## Notable Projects

- **Radar Fusion System – TI-Sponsored Senior Project** 2026  
*Python, AWS IoT, JSON, TI IWR6843AOP*
  - Served as scrum master & engineering lead for senior capstone project sponsored by Texas Instruments
  - Normalized raw radar track data from IWR6843AOP EVM into standardized JSON packets for AWS transmission
  - Architected modular Python system with boot/node identity management and millisecond-precision timestamps for synchronized cloud logging
- **E90 Remote Start – BMW CAN Bus Controller (WIP)** 2025  
*C++, ESP32, CAN Bus, WiFi/HTTP*
  - Built ESP32-based CAN bus controller interfacing with BMW E90 K-CAN network for real-time vehicle monitoring and control
  - Parsed 20+ CAN IDs covering engine RPM, throttle, climate, windows, and door locks
  - Hosted WiFi web dashboard with 500ms auto-refresh for live telemetry (GitHub)
- **Add Spice - MTB Video Analysis** 2025  
*Python, PyTorch, OpenCV, 3D CNNs*
  - Built AI system rating biking intensity 0–10 from GoPro clips
  - Processed grayscale clips with 3D CNNs at 16 FPS
  - Deployed locally for real-time evaluation on RTX 3050
- **AI-Powered Indoor Localization** 2023  
*Python, TensorFlow, ESP32, C++*
  - Programmed ESP32 for WiFi triangulation using neighbors' router wifi signal strengths
  - Trained TensorFlow model for indoor location prediction
  - Implemented real-time IoT data collection pipeline
- **ShakespeareLM** 2025  
*Python, PyTorch, Transformers*
  - Built GPT-like decoder model on Shakespeare corpus
  - Implemented training and on-device inference
- **Custom Operating System Kernel** 2022  
*C, x86 Assembly, QEMU*
  - Built monolithic kernel with multitasking and context switching
  - Implemented 32-bit protected mode, paging, and memory management
  - Created interrupt routing system and syscall interface