Scott Grew

Education

University of Southern California, Viterbi School of Engineering 2026 – 2028
Master of Science in Computer Science

- Fall 2026 coursework: Analysis of Algorithms, Principles of Programming Design
- Spring 2027 coursework: Robotics, Operating Systems, Machine Learning

Orange Coast College 2025 – 2026
Post-Baccalaureate Computer Science and Mathematics Coursework

California State University, Fullerton 2018 – 2022
Bachelor of Arts in Philosophy

Projects

Throughline: Lidar Multi-Object Tracker | *C++, Eigen, Foxglove*

- Built a real-time tracker on the Waymo Perception Dataset that keeps one ID on each object a lidar detector finds, even through missed detections, and forecasts its path 3 s ahead
- Matched each scan's boxes to extended Kalman filter predictions with the Hungarian algorithm
- Ran each frame, from reading up to 178K lidar points to publishing the 3D scene, in 3 to 5 ms at the median and under 12 ms at the 99th percentile; scans arrive every 100 ms

MotionNet: Self-Driving Motion Prediction | *Python, PyTorch, Docker*

- Trained a 12M-parameter transformer on 122K Waymo Motion Dataset scenes to predict six ranked 8 s paths per road user from 1 s of history plus the surrounding traffic and road layout
- Scored 45K held-out test scenes on Waymo's server: over 8 s, the closest of the six paths was off by an average of 1.43 m for vehicles, 0.65 m for pedestrians, and 1.28 m for cyclists
- Seeded the decoder with 54 k-means endpoint clusters per object type, giving each output path a distinct maneuver to start from

Showdown: Poker Strategy Solver | *C++*

- Trained a strategy for Rhode Island Hold'em, a two-player poker benchmark, with Monte Carlo counterfactual regret minimization on lock-free shared tables, running 10× faster on 16 threads than on one
- Computed how much a perfect opponent wins against it, 0.094 chips per hand; the same measurement gives 0.805 for the published equilibrium

Concord: Raft Consensus | *Go*

- Implemented Raft leader election and log replication, then added crash recovery and log compaction
- Passed all 28 tests in MIT 6.5840's Raft suite, including crash and partition tests, with Go's race detector on

Technical Skills

Languages: Bash, C++, Go, Java, Python
Libraries & Frameworks: Eigen, Next.js, NumPy, pandas, PyArrow, pytest, PyTorch
Tools & Platforms: CMake, Docker, Foxglove, Git, Hugging Face, Kaggle, Linux, MongoDB, Protocol Buffers
AI Tools: AI coding agents, Multi-agent orchestration

Leadership & Awards

Micromouse Club, Orange Coast College 2026
Founding Board Member

- Ran club lab sessions on maze-solving algorithms and embedded sensors: flood fill, A*, Dijkstra, D* Lite
- Prototyped time-of-flight distance sensing (VL53L1X) on Arduino

HackOC Spookathon 2025
1st Place, Team of Four

- Built a calculus tutor that grades handwritten work from a photo by converting the handwriting to LaTeX and having a language model check each derivation step, flagging the first that does not follow
- Shipped the C++ backend and Next.js frontend in 36 hours