

EDUCATION

Northwestern University — Evanston, IL

Masters of Science in Robotics December 2025

University of Wisconsin-Madison — Madison, WI

Bachelor of Arts in Computer Science December 2022

SKILLS

Software: Git, Linux, C++, Python, C, Assembly, Bash, SQL, Java, Smali, Javascript, Go, Test-Driven Development
Robotics: ROS2, Gazebo, SolidWorks, RViz, OpenCV, MoveIt, Microcontrollers, AR/VR, Nav2, Robot Kinematics
Machine Learning: PyTorch, OpenCL, Cuda Programming, ConvNets, FFTs, Transformers, YOLO, GANs, Game Theory
DevOps: Docker, AWS[RDS|EKS|EC2|Lambda], Prometheus, Ansible, Jenkins, Kubernetes, CircleCI, CI/CD
Web/App Development: Swift, Kotlin, Django, React.js, Three.js, Node.js, Spring Boot, XCode, HTML, CSS
Electrical: Oscilloscope, Soldering, Circuit Analysis, PCB design, FPGA Programming, Embedded Systems

WORK EXPERIENCE

EL Tracker — el-tracker.com

October 2023 – Present

Founder and Sole Developer

Chicago, IL

- Built a Chicago transit app with Swift, Kotlin, Django, and Node.js, prioritizing accessibility features
- Designed the only transit app to work seamlessly for blind users, offering a fully accessible experience
- Received 3000+ downloads, an overall 5 star rating, and reached #46 in nationwide navigation apps
- Negotiated a partnership deal with Transit Tees to secure user base growth and operation costs

Sunrise Futures

January 2023 – January 2024

Senior DevOps Associate

Chicago, IL

- Reduced costs by redesigning a monitoring tool in C++ and SQL to fix trading issues, such as throttles
- Tested trading programs, Python scripts, and configs daily — releasing via Docker and Ansible
- Mentored junior developers weekly, teaching infrastructure, troubleshooting production issues

Datachat

January 2022 – January 2023

Software Engineer

Madison, WI

- Integrated clustering models, such as K-means, in a data analytics platform via PyTorch, BigQuery
- Pushed features via React and Go to clients such as Meta, by integrating feedback from weekly syncs

FEATURED PROJECTS

Gesture-Controlled Robot with AR Glasses & ROS2

December 2024 – Present

- Published a C++ ROS2 package enabling gesture-based robot control using AR Glasses
- Applied MediaPipe to detect gestures and control a mobile robot via ROS2 over a LAN connection
- Streamlined robot movement by implementing feedforward control for precise operations.
- Designed a gesture-based controller for Unitree Go2 robot dog and a 7-DOF Frank Panda robot arm

Robot Whack-a-mole Player

November 2024 – December 2024

- Collaborated to program a 7-DOF arm with ROS2 MoveIt library to control a servo-driven hammer
- Utilized YOLOv8 to detect mole illumination events with high speed and accuracy
- Implemented initial mole pose detection using OpenCV HSV tuning for responsive gameplay
- Rapidly prototyped a CAD model for the hammer and a custom game board to support gameplay functionality

Pen Grabber Robot

August 2024

- Programmed a 4-DOF PincherX 100 arm to locate and grasp a pen using OpenCV and RGB-D camera
- Calibrated the system with matrix transformations to align camera and robot frames for precision

Professional Chess Player

Apr 2009 – Present

- Achieved 2100 USCF (United States Chess Federation) Rating, ranking top 20 in Wisconsin
- Earned \$6,500 by winning the Under-2000 Category at the World Open 2022 Chess Tournament