David Khachatryan

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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, Assembly, Bash, SQL, Java, Go, Test-Driven Development
Robotics: ROS2, Gazebo, RViz, OpenCV, MoveIt, Microcontrollers, AR/VR, Nav2, Robot Kinematics
Machine Learning: PyTorch, OpenCL, Cuda Programming, ConvNets, FFTs, Transformers, GANs
DevOps: Docker, AWS[RDS|EKS|EC2|Lambda], Prometheus, Ansible, Jenkins, Kubernetes, CircleCI
Web/App Development: Swift, Kotlin, Javascript, Django, React.js, Three.js, Node.js, Spring Boot, XCode

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
- 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.

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 FFT (Fast Fourier Transforms) to detect mole lighting events with high speed and accuracy
- Implemented initial mole pose detection using OpenCV HSV tuning for responsive gameplay

Pen Grabber Robot — August 2024

- Leveraged 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