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Ari Zare
Staff Software Engineer
GenAI/MLOps
MS in CS with 10+ years of experience

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Skills

- MLOps, Distributed Sys, Computer Networks, DevOps
- Go, Python, SQL, Bash, TypeScript, C, ML Tooling
- Engineering Design, Project Management, Mentoring
- Docker, Kubernetes, PostgreSQL, Git, AWS, GCP

Work Experience

Staff Software Engineer **Prepared / Axon AI** **Mar 2025 – Present**
Accelerating emergency response with Assistive AI. Acquired by Axon in 2025.

Senior Software Engineer **HPE - AI Solutions** **June 2021 – Dec 2024**
I contributed across multiple areas, most recently in the resource management team and our GenAI product and led the design and launch of various parts in three greenfield projects in deep learning SaaS and GenAI. Some projects:

- Enhanced the job scheduler for better visibility, leading to higher GPU utilization and a 40% drop in job churn.
- Designed multi-cluster, multi-resource manager Kubernetes support with gateway proxies for Determined tasks.
- Overhauled metrics reporting for higher performance and flexibility utilizing PostgreSQL partitioned tables, including large scale migration testing and optimization.
- Introduced a PyTorch Lightning adapter, reducing code complexity and user errors with faster model porting.
- Improved HPC fault tolerance by enabling faster fault discovery job recovery via node/slot taints.
- Reduced CLI startup time by 80% using dependency tree analysis and lazy imports.
- Designed & delivered APIs (OpenAPI, gRPC, WebSockets), advocating for in-house code generators to streamline workflows.

Leadership and Mentorship: I introduced and optimized engineering processes, mentored 10 new hires, conducted 70+ interviews, and participated in customer and product meetings, prioritizing team success.

Tooling and CI/CD: Eliminated inefficiencies, achieving multiple 10x improvements in PR turnaround time. Built and enhanced testing and CI infrastructure in various teams.

Software Engineer **Determined AI (Acquired)** **Aug 2019 – Dec 2024**
• Joined as engineer #14 and helped build the team by interviewing more than 70 candidates and playing many roles based on changing needs of the early stage startup.
• Developed an open source end-to-end deep learning pipeline to enable automation of model selection, tracking, and hyperparameter tuning that was later acquired by HPE's high performance computing unit in 2021.

Software Engineer **Real-Time Innovations (RTI)** **May 2019 – Aug 2019**
• Designed and implemented APIs to expose information about the type system for customers. C, C++
• Evaluate, research, and develop a pluggable lossless compression solution for real-time, peer to peer communication of user data. Targeting autonomous vehicles: sensor sweeps and camera feeds. [Internship]

Software Engineer (RA) **Institute for Software Integrated Systems** **Jan 2017 – May 2019**
Researched and developed in the intersection computer networks, distributed systems, cybersecurity, and robotics with a flavor of CS education. Selected projects: NetsBlox and RoboScape.

- Increased messaging throughput by 24x under load.
- Improved early bug discovery: CI, chaos monkey
- Guaranteed type safety for user-facing services.
- Added dynamic doc generation for 120+ APIs
- Created a portable batch provisioning tool to facilitate initial robot setup & connection to a new access point.

Education

MS & BS in Computer Science **Vanderbilt University**
Advanced Algorithms; Machine Learning; Deep Learning; Reinforcement Learning; Distributed Systems; Concurrent Programming; System Architecture; Cloud Computing; Modeling & Simulation; Computer Networks; Artificial Intelligence; Software Design; Operating Systems; Databases; [BS in Azad University]

Selected Hobby Project

- **gmenu (GoMenu)** is a cross-platform lightweight dynamic GUI menu inspired by suckless dmenu. *Go Lang*
- **Webcam Mods** Linux-1st real-time face tracking, background mods, crop, zoom, record/replay. *Python, TF*
- **Roboscape** Developed an educational cybersecurity playground using robotics and NetsBlox *C, JS*
- **Next Block Prediction** Suggest next blocks in block-based languages: RNN, Ngrams, Word2Vec. *Python*
- **Sketch Adventures** (Global Game Jam) Incorporated a doodle classifier to create a game. *Python, Rust*

- **Distributed PubSub Broker** Led a team of 3 to design and implement three different architectures of a resilient PubSub broker with QoS using ZeroMQ, CHORD, and Zookeeper from scratch. *Python* [↗](#)
- **Generalizable QLearning Framework** A DQN framework for solving board games. *Python, JS* [↗](#)
- **Smart Home Automations w/ RPI & ESP** a collection of smart home DIY projects *Python, Bash*

Selected Publications [↗](#)

- “Educational Robotics with a Twist”, H.Zare, M.Maróti, A.Ledeczi, 2018 - *Blocks+ IEEE*
- “NetsBlox and Wireless Robots Make Cybersecurity Fun”, A.Ledeczi, H.Zare, G.Stein, 2019 - *ACM SIGCSE*
- “A Visual Programming Environment for Introducing Distributed Computing to Secondary Education”, *Elsevier*
- “You can teach computer networking in high school”, B.Broll, H.Zare, D.Do, M.Misra, A.Ledeczi, 2017 - *IEEE*