

# Autrin Hakimi

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## PROFESSIONAL PROFILE

Software engineer building full-stack applications, ML-driven systems, and robotics automation. Currently at ASM, where I independently own and deliver multiple full-stack systems for semiconductor manufacturing. Published researcher (ACM SIGSPATIAL 2025) with experience in distributed deep learning across 64 NVIDIA A100 GPUs. Strong across Python, C/C++, JavaScript, and SQL, with end-to-end ownership from design through production.

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## TECHNICAL SKILLS

Languages	Python, C/C++, JavaScript, TypeScript, SQL, Bash, HTML, CSS
Web & Backend	React, Python Flask, Tkinter, REST APIs, WebSockets, JavaScript/HTML/CSS
Cloud & DevOps	Docker, Git, CI/CD pipelines, Linux/Unix, Microsoft Azure, Google Cloud, Snowflake
ML & Data	PyTorch, scikit-learn, Pandas, NumPy, distributed training (64-GPU), DGL, NetworkX
Databases	MySQL, SQL, NoSQL, Snowflake
Automation & Control	Robot workflow orchestration, vision systems, HMI/GUI, ROS, OpenCV, Yamaha robot controllers
Methodologies	Agile (Scrum/Kanban), test-driven development, cross-functional collaboration

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## EDUCATION

**B.S., Computer Science** Aug 2021 - May 2025  
Iowa State University | GPA: 3.70/4.0 | Magna Cum Laude | Dean's List Ames, IA

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## PROFESSIONAL EXPERIENCE

**Software Engineer** Jan 2026 - Present  
*ASM America* Phoenix, AZ

- **Independently own and deliver multiple full-stack production systems** for semiconductor manufacturing — robotics platforms, an ML-driven parts matching tool, robotics frontends, and operator tooling — work that typically requires multiple engineers.
- **Inherited and overhauled a legacy codebase**, redesigning architecture across both backend and frontend; rebuilt the UI of a collaborative robot application, contributing to a **quarterly team award**.
- Resolved numerous **backend issues** spanning synchronization, interrupt handling, robot stop conditions, and measurement algorithms; **improved measurement accuracy** and shipped new features into production.
- Built a full-stack **ML-driven parts matching system** (Flask, JavaScript, SQL) that saves engineers hours of manual lookup; engineered **threading and synchronization** across robotics frontends to coordinate vision and control workflows.
- Introduced **Git and version control practices** to a team that had not previously used them; own end-to-end delivery from algorithm design through production deployment, collaborating cross-functionally with mechanical, electrical, and process engineering teams.

**Undergraduate AI Researcher** Aug 2024 - Nov 2025  
*Iowa State University, SwAPP Lab* Remote

- Co-authored "**HydroGAT**" [[paper](#), [code](#)] accepted at **ACM SIGSPATIAL 2025**: a heterogeneous graph attention transformer for flood prediction reaching **NSE 0.97**; built distributed training across **64 NVIDIA A100 GPUs** on NERSC Perlmutter with **15x speedup**.
- Engineered end-to-end **data pipelines** (PyTorch, DGL, Pandas, NumPy) for large-scale datasets; automated workflows via Bash scripting, cutting setup time 40%.

**Software Development Intern** May 2024 - Aug 2024  
*BuilderTREND* Omaha, NE

- Designed and shipped a **React-based job proposal template**; developed full-stack features in JavaScript, TypeScript, and C# (.NET).
- Migrated legacy ASP pages to React, improving scalability; collaborated in **Kanban/Scrum sprints** with cross-functional teams.

**Data Science Intern** May 2023 - May 2024  
*Alliant Energy* Remote

- Developed **predictive ML models** (Random Forest, SVM) in Python and SQL analyzing electricity usage for 995K customers in Snowflake.
- Predicted EV ownership for customer segmentation; recognized by Director of Data Analytics for impactful business insights.

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## SELECTED PROJECTS

**Autonomous Robotic Chess System** [[code](#)]

- Built fully autonomous system: real-time piece recognition (OpenCV), move calculation, and **UR10e robot arm control** (ROS, MoveIt, Python).

**xv6-RISC-V OS Schedulers** [[code](#)]

- Implemented **Round-Robin and Stride schedulers** in xv6 on RISC-V; C, context switching, spin locks, and process synchronization.