

ABUBAKER AHMADI

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EDUCATION

Rutgers University–New Brunswick

BS in Computer Science

Expected Graduation: May 2028

Mercer County Community College

A.S. in Computer Science & Mathematics | Cumulative GPA: 4.0/4.0

Graduation: May 2026

TECHNICAL SKILLS

Programming Languages: Python, SQL, Java, JavaScript, Bash, C#, HTML/CSS

Frameworks & Libraries: React.js, Node.js, Pandas, NumPy, scikit-learn, PyTorch, Hugging Face Transformers

Platforms & Tools: Linux, Git, GitHub, CI/CD (GitHub Actions), Docker, SQLite, Jupyter

EXPERIENCE

Princeton University, Princeton, NJ

July 2026 - Present

Software Engineering Intern

- Building an event-driven Python daemon (systemd, Linux) that provisions per-researcher file access on demand, applying temporary POSIX ACLs and bind-mounts on tool login and revoking them on logout, replacing a manual workflow for 200+ fabrication researchers.
- Designed and authored a companion open-source plugin and HTTP API that translate tool login/logout into provisioning events over mutual TLS, backed by a WAL-mode SQLite session store tracking live sessions.
- Hardened the service with interface binding, HTTPS, mTLS, and hashed API keys, and authored its requirements and architecture documentation for the university IT team.

Mercer Council on Alcoholism & Drug Addiction, Lawrence, NJ

October 2024 - July 2026

Software Developer

- Designed a relational database schema and built a Python ingestion and parsing pipeline that collected, standardized, and stored organizational data, replacing manual reporting cycles that previously took days.
- Engineered a data pipeline using a cloud OCR API to process 7 years of quarterly reports (140+ documents), transforming unstructured legacy records into a structured, queryable dataset.
- Built a live data dashboard that surfaces organizational metrics in real time, giving the executive team the visibility to make faster, better-informed decisions.

Princeton Materials Institute, Princeton, NJ

December 2024 - August 2025

Software Engineer, Chip-Packaging Training Platform

- Built a VR training simulation (Unity, C#) on Meta Quest 3 that reproduces the semiconductor chip-packaging process via photogrammetry, letting technicians train without physical access to the tools; coordinated a 6-person team.
- Deployed it into active use, training 150+ technicians to date, and integrated 3 LLM agents (Instructor, Evaluator, Safety Monitor) via the OpenAI API to guide and assess them in real time, backed by a system storing per-user performance analytics.

PROJECTS

Shipment Weight Prediction Service

Python | scikit-learn | Pandas | FastAPI

- Trained a machine-learning model on a full year of real warehouse data to predict actual shipment weights at 95% accuracy for a logistics operation processing 10,000+ shipments/day, replacing unreliable theoretical estimates.
- Built a FastAPI inference service exposing the model through a REST API, packaged as a reusable Python library, projected to cut roughly 10 seconds of manual weighing per order (about 28 hours daily across 10,000 orders) and enable earlier label printing.

ClubSphere - clubsphere.csai.club

Python | Node.js | React | JavaScript | HTML | CSS

- Built and deployed a full-stack club operations platform (React + Node.js) now used by 600+ students across 18 clubs, with member management, event tracking, finances, document storage, and live messaging.
- Built real-time chat using WebSockets, centralizing previously fragmented campus Student Life workflows into a single platform.

RAISE '26 National AI Research Competition Finalist - Rutgers University

Python | Pandas | NumPy | scikit-learn | PyTorch | Hugging Face Transformers | Google Colab

- Selected as 1 of 8 finalist teams out of 188 nationally. Built an NLP/ML pipeline using local LLMs to analyze 10,500+ news articles on AI's societal impact, applying semantic embeddings, clustering, and sentiment analysis.

LEADERSHIP

National Community of Practice (cophub.org)

Co-Founder & Chairman

- Lead a membership-based network of 19+ community colleges and four-year institutions, coordinating member onboarding, engagement, and collaborative projects across the United States.

Adobe Student Ambassador, Rutgers University

- Run campus creative-skill and student engagement initiatives.

PUBLICATIONS

Hong, K., **Ahmadi, A.**, Jha, I., Stout, P., Li, G.P., Harrop, B., & Norman, A. (2026). "A Multi-Institutional Digital Twin and AI Educational Platform for Advanced Microelectronics Fabrication and Device Packaging Training." Journal of Advanced Technological Education. DOI: [10.5281/zenodo.19241365](https://doi.org/10.5281/zenodo.19241365)