

Arin A. Rakshe

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EDUCATION

Northeastern University

Boston, MA

Khoury College of Computer Sciences

Sept 2024 - Apr 2028

Candidate for Bachelor of Science in Computer Science and Mathematics

Minor: Finance

- Relevant Coursework: Algorithms and Data, Object-Oriented Design, Logic and Computation, Discrete Math
- Clubs: Software Engineer: Disrupt - The FinTech Initiative, Tech Associate: Northeastern Blockchain

TECHNICAL SKILLS

- **Coding Languages:** Python, Java, JavaScript, SQL, Swift, TypeScript, HTML/CSS, Excel VBA
- **Frameworks & Libraries:** PostgreSQL, Supabase, React, Flask, Node.js, MySQL, RAG, PyTeal, LangChain
- **Developer Tools:** Docker, AWS (Lambda, S3, Lamda), Linux, REST APIs, Git, Jenkins, CI/CD, SQLAlchemy
- **Certifications:** Microsoft Certified: Azure AI Fundamentals

EXPERIENCE

Beacon Industries

Newington, CT

Software Engineer Intern

June 2025 - Aug 2025

- Developed **Python** automation pipeline using **Tesseract OCR** to extract aerospace part identifiers from 2000+ aerospace component labels, leveraging **pytesseract** for text extraction.
- Designed **PostgreSQL** database integration layer using **Python** with **SQLAlchemy** to validate results against **10,000+** part specifications.
- Improved OCR accuracy to **95%** by implementing image preprocessing pipeline with **OpenCV**.

Yale Hospital, Bonde Artificial Heart Lab (PiroGon Inc)

New Haven, CT

Research Assistant

Dec 2021 - Dec 2024

- Collaborated with medical researchers to develop neuromodulation device preventing acid reflux in ICU patients by creating **15+ SolidWorks** prototypes and technical drawings.
- Optimized the analysis of over **10,000** patient data points using **Excel VBA**, Pivots and **Python**, creating visualizations and addressing key factors influencing heart device implant success.

University of Connecticut, EL GATO Lab

Storrs, CT

Undergraduate Research Assistant

May 2025 - Sep 2025

- Worked with undergraduate researchers to develop RAG-powered educational chatbot enabling natural conversations with historical figures using **LangChain**, and **ChromaDB**.
- Engineered document processing pipeline that converts **500+** historical documents into vector embeddings, implementing semantic search for context-aware response.
- Built user authentication system and database layer to store chat histories and filter content.

VLink Inc.

Windsor, CT

IT Intern

June 2024 - Aug 2024

- Supported **DevOps** team on **cloud infrastructure** deployments and **CI/CD** pipeline configurations, gained hands-on exposure to **AWS services**, **Jenkins** workflows, and Agile sprint processes at IT consulting firm.
- Contributed to code review process and created technical documentation for **git version control**, testing standards, and production deployment workflows.

PROJECTS

ADHD Patient Engagement Platform | React, Node.js, MongoDB, Azure Health Data Services

- Developed full-stack web application enabling providers to create ADHD assessments and families to complete Connors Rating Scale questionnaires with automated scoring and severity interpretation.
- Integrated **Azure FHIR** server for standardized healthcare data exchange, managing **200+** patient records, questionnaires, and responses across healthcare systems.
- Built provider dashboard for patient tracking and family portal for assessment completion, implementing **JWT authentication** and **MongoDB** with vector search for future AI insights.

Urban Food Supply Chain Visualizer | TensorFlow.js, Deck.gl, React, Supabase

- Built interactive 3D globe visualization mapping invisible farmland feeding major cities, revealing hidden global agricultural dependencies and supply chain vulnerabilities across **25+** cities.
- Developed ML-powered yield prediction model using **TensorFlow.js** trained on **10,000+** agricultural data points from to forecast regional agricultural failures from drought, temperature, and fertilizer shortage data.
- Implemented crisis simulation engine modeling **30/60/90-day** supply chain disruption scenarios with vulnerability scoring for urban food security analysis.