# Obinna Nwachukwu

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## Education

**Georgia Institute of Technology** — January 2022 – May 2026 (Expected)
BS in Computer Science — Atlanta, GA
**Relevant Coursework:** Systems and Networks, Design of Operating Systems, Design and Analysis of Algorithms, Objects and Design

## Skills

**Programming:** C, C++, C#, Python, Java, JavaScript, SQL
**Frameworks & Libraries:** React, React Native, Node.js, Flask, Firebase, SQLite
**Tools & Technologies:** Git, Docker, Firebase, VS Code, IntelliJ, LaTeX, Excel
**Systems & Networking:** Linux, Unix, 5-stage pipeline design, hazard detection
**Software Design:** Agile, CI/CD, Unit testing, Debugging, API security, Data privacy regulations

## Projects

**AI-Powered Question and Answer Tool** — January 2024 – May 2024
Built a retrieval-augmented generation (RAG) tool using GPT-4 to answer user questions based on uploaded documents.

- Implemented vector storage and indexing for fast, scalable data retrieval.
- Optimized model interactions through prompt engineering, improving query relevance and accuracy.
- Developed a Streamlit front-end for seamless user interaction with AI capabilities.
- Packaged the tool in a Docker container to streamline installation and simplify maintenance.

**5-Stage Pipelined Processor Design** — April 2024
Completed an advanced project for the Systems and Networks course, designing a 5-staged pipeline for a MIPS-like ISA.

- Designed and implemented a processor with Fetch, Decode, Execute, Memory, and Write-back stages.
- Developed custom microcode-based integrated controllers to optimize control signal generation.
- Optimized hazard detection by implementing data forwarding, minimizing NOPs and pipeline stalls.
- Achieved a **5.8x performance improvement** in linear programs; **4.3x improvement** in branch-heavy programs.
- Completed detailed technical documentation and performance analysis, receiving full marks for the implementation.

## Experience

**Georgia Tech Technology Services Organization** — September 2024 – Present
**Student Assistant** — Atlanta, GA
Deliver comprehensive technical support and administrative assistance to faculty, staff, and students, ensuring seamless IT operations.

- Reimaged and configured staff computers, optimizing performance and ensuring compliance with institutional standards.
- Registered and updated computer assets in the Georgia Tech Resource Tracker, facilitating accurate tracking and management.
- Monitored and resolved IT support tickets, collaborating with team members to address issues promptly and effectively.

**iD Tech** — May 2023 – August 2023
**Instructor** — Atlanta, GA
Delivered effective STEM instruction to young students in areas such as JavaScript, Game Design, and UX Design.

- Received overwhelmingly positive reviews **(over 90%)** from students, with requests for further one-on-one instruction.
- Achieved a **100% graduation rate** for all classes, with a high participation rate in daily exercises and activities.
- Taught effective debugging skills to students, which reduced questions over the course of the instruction period.

## Leadership

**Manager of a Mobile App Development Team** — August 2023 – Present

- Led a team of 5 React Native developers, guiding project planning, development, and deployment.
- Oversaw the integration of APIs and third-party services, such as Firebase, enhancing app functionality.
- Implemented robust security protocols, safeguarding user data and complying with privacy regulations.