




Samuel Barnabase

✉ sambar@iastate.edu |  linkedin.com/in/samuelbarnabase/ |  github.com/s4mi-sb |  samuelbarnabase.com

EDUCATION

Iowa State University

Ames, IA

Bachelor of Science in Electrical Engineering (Minor: CS), Honors Program

Expected Graduation: May 2027

GPA: 4.0/4.0

Relevant Coursework: Data Structures and Algorithms, Digital Logic Design, Differential Equations, Object-Oriented Programming

Honors/Accomplishments: Top 2% of Class, Dean's List, Loyal Scholar, Dean's Excellence Scholarship, University Honors Program

EXPERIENCE

UI/UX Intern

June 2023 – July 2023

Innovate 120

Maquoketa, IA

- Collaborated with GAF (Global Assessment of Functioning) to enhance roofers' safety by leveraging AI, resulting in improved hazard detection and reduced risk for workers.
- Led a team of 3 students to design a professional mobile app and wearable solution mock-up using Figma and Adobe, leading to a more effective and user-friendly safety tool.
- Strengthened strategic thinking, collaborative work, and interpersonal communication skills, contributing to a 50% more effective team performance and smoother project execution.

PROJECTS

Time/Temperature Display System | *Embedded Systems, Atmega Microcontroller, PCB Design, RTC Module*

- Implemented an embedded system to display real-time temperature and time using an Atmega microcontroller, enhancing usability with precise temperature readings and time retention.
- Integrated a temperature sensor and op-amp for accurate room temperature detection.
- Introduced an RTC module with a lithium backup battery to ensure the system retains accurate time even without external power.

ISUcarpooling | *MERN stack, RESTful APIs, TailwindCSS, AWS S3, JWT, Redux*

- Built a full-stack carpooling web application using MERN stack, enhancing security and user experience for over 10 users by implementing JWT-based authentication for email/password.
- Optimized CRUD operations and advanced search functionality with MongoDB, improving search efficiency by 60% and enabling users to filter rides by title, apply sorting options, and manage rides seamlessly.
- Deployed the application on the Render platform with a 99.9% uptime, and integrated AWS S3 Bucket for image handling, reducing image upload and retrieval time by 60%.

CLI Chatbot | *NodeJS, OpenAI*

- Developed a terminal based chatbot by leveraging OpenAI's 3.5 turbo model, designed to be used when ChatGpt is at maximum capacity.
- Implemented a functionality to save and log all conversation between the bot and the user.
- Integrated a code snippet saving feature, allowing users to store and retrieve code examples within the chat interface for future reference.

ACTIVITIES & INVOLVEMENT

IEEE (Institute of Electrical and Electronics Engineers), National Society of Black Engineers, Audio and Aurdino Club, Chess Club, African Students Association, Intramural sports (Soccer).

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript/TypeScript, HTML/CSS, TailwindCSS, Verilog

Frameworks: React, Node.js, Express.js, MongoDB, Material-UI, RestAPI

Developer Tools: Github, FireBase, AWS, VS Code, JupiterLab, IntelliJ, Eclipse

Libraries: pandas, BeautifulSoup

Certifications: AWS Certified Cloud Practitioner