

# Hassan Sesay

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## SUMMARY

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Software Engineer experienced in designing and implementing end-to-end software solutions. Mobile/web development and machine learning specialty, with a record of deploying full-stack applications and enhancing system reliability. Expertise in Agile collaboration, continuous integration, and cloud deployment drives effective code reviews and product iterations. Award-winning product development background aligns with industry best practices.

## EDUCATION

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**The Pennsylvania State University- Harrisburg | Middletown, PA**

**B.S. in Computer Science**

**Aug 2021 - May 2025**

**University of Maryland Global Campus**

**M.S. in Data Analytics**

**Aug 2025 - Nov 2026**

## RELEVANT EXPERIENCE

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### Hustle

**December 2023 -**

*Co-Founder / Software Engineer*

*Remote*

- Designed and deployed a full-stack gig economy app using **React Native**, **Supabase**, **AWS S3**, and **Python**-based backend logic. Integrated user authentication, job filtering, and real-time data operations through **CI/CD pipelines** and GitHub Actions.
- Collaborated in an **Agile** team to iterate over features and resolve production issues, emphasizing user-driven product evolution. Gained hands-on experience with cloud deployment, serverless design, and analytics dashboard integration. Other technologies and languages used include **Python**, **JavaScript**, **TypeScript**, **Expo**
- Utilized **REST APIs**, secure data transactions, and performance tuning for scale.
- Presented and pitched product at Harrisburg LaunchBox event, earning \$1000 award and First Place Honors at Penn State Capstone Conference.

### Ford

**June 2023 - August 2023**

*Functional Safety Systems Engineer Intern*

*Dearborn, MI*

- Partnered with cross-functional teams to manage safety engineering documentation using **JAMA**, **Jira**, **MagicDraw**.
- Used Model-Based Systems Engineering (MBSE) to align safety features with compliance needs in vehicle systems.
- Strengthened experience communicating complex technical standards across multiple teams and stakeholders.

### Kindness Service Homecare Agency for Disabilities

**August 2024 -**

*Chief Compliance Officer/Tech Lead*

*Harrisburg, PA*

- Developed internal tools and automation for billing and payroll systems using **C++** and **SQL Server**.
- Conducted system and software evaluations to improve reliability, security, and compliance.
- Oversaw technical documentation and project roadmaps to align business and engineering teams.

## PROJECTS

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### Home Care Agency Management with EVV Platform

*App and Website Development*

*June 2025*

- Developed a HIPAA-compliant, comprehensive home care agency management platform designed to streamline scheduling, client data, billing, and Electronic Visit Verification (EVV).
- Integrated **geofencing**, **timestamp validation**, **caregiver authentication**, and **audit-ready documentation features**
- Designed for **third-party aggregator compatibility** with Sandata, enabling streamlined audits and compliance.

- Focused on **data integrity**, **offline access**, and **real-time sync** to support caregiver usability and regulatory reliability.
- Frontend built with modern **Next.js**, integrated with backend services **Node.js**, **Express**, **PostgreSQL with Prisma**.

### Spotify Music Recommendation Machine Learning Project | Class Project

April 2025

- Used **machine learning** to analyze user listening patterns and recommend music based on time of day with Spotify API. Built a KNN-based recommendation engine using **Python** with import libraries **pandas** and **Scikit-learn**.
- Applied data preprocessing and feature engineering (e.g., danceability, energy, tempo, and time-of-day labeling).

### PocketMonster Encyclopedia | Class Project

February 2023

- Built a single-page web app using **HTML/CSS/JavaScript** that fetched Pokémon data from a **RESTful API**.

### TV Show Info Web Application | Class Project

March 2023

- Created a **JavaScript**-based UI that consumes **TVMaze API**, focusing on interactive **UX** and error handling.

## TECHNICAL SKILLS

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**Languages & Tools:** Java, Python, C, C#, Javascript, TypeScript, SQL (MySQL, Oracle), HTML, CSS, T-SQL, Git, Maven, Spring, TensorFlow, PyTorch, React, Supabase, Git, REST APIs, MagicDraw, JAMA, SBE Vision, Docker, Jenkins, Eclipse, VSCode, Jira, Kubernetes, ActiveMQ, Kafka, Scala

**Frameworks:** .NET, ASP.NET, ADO.NET, MVC, Spring Boot, Microservices, React Native

**Concepts:** Agile Development, Software Lifecycle, Unit Testing, Object-Oriented Programming, Design Patterns, REST Services, Containerization, System Integration, Test-Driven Development, Applied Machine Learning (Supervised & Unsupervised Learning), Data Analysis, Feature Engineering, Model Evaluation, Regression, Classification, Data Visualization, Agile Development, DevOps, CI/CD Pipelines, MapReduce, Statistics, UI/UX Design, Full-Stack, MLOps

**Cloud & Platforms:** AWS (S3, Lambda), Azure, IaaS/PaaS exposure, Linux, Mac OS, Virtual Machines, Windows, NodeJS

**Other Skills/Soft Skills:** Strong communication, independent & collaborative work, technical writing, problem-solving, time management, Microsoft Office, cross-functional, adaptability, cross-platform app delivery

## AWARDS AND CERTIFICATIONS

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- **\$1000 Award:** Harrisburg Launchbox Startup Competition (March 2025)
- **First Place:** Penn State Harrisburg Capstone Design Award (April 2025)
- Ability to obtain **Department of Defense (DoD) Secret** or **Top Secret** clearance

## ADDITIONAL QUALIFICATIONS

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- Proficient with **Agile** lifecycle development, requirement gathering, system analysis, implementation, testing, and maintenance.
- Experience working with cross-platform data exchange and software across **Windows** and **Linux** environments.
- Comfortable with static code analysis, unit testing, and code review best practices.
- Ability to contribute to both individual and team-based technical efforts with minimal supervision.