

Usman Benrbia-Harni

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EDUCATION

Georgia Institute of Technology, College of Computing

Atlanta, GA

Bachelor of Science in Computer Science

Aug. 2021 – May 2025

- Thread: Info/Internetworks-Intelligence

Relevant Coursework: Object Orientated Programming, Data Structures and Algorithms, Design and Analysis of Algorithms, Computer Organization and Programming, Computer Systems and Networks, Intro to Artificial Intelligence, Database Systems, Computer Networking, Computer Vision, Machine Learning, Mobile Apps and Services

TECHNICAL SKILLS

Languages: Java, Python, C++, JavaScript, HTML/CSS, MySQL, R

Tools: GitHub, AWS (e.g., EC2, S3, Cognito), Docker, PowerBI, MongoDB, Postman, Microsoft Office, Google Suite

Frameworks & Libraries: React, Node.js, Vue.js, NumPy, Scikit-Learn, PyTorch, Angular, Vite

EXPERIENCE

Technical Analyst | *Automation, DevOps, JIRA*

July 2025 – Present

Aptean

Alpharetta, GA

- Gathered and documented **integration requirements**, collaborating with business and technical teams.
- Developed process models and technical documentation to support **enterprise solution** design.
- Analyzed workflows to identify and **implement automation and system improvements**.
- Served as a liaison, ensuring clear communication and successful integration delivery.

Student Researcher | *Python, Figma, PyTorch, Linux*

Jan. 2024 – May 2025

Agile Locomotion & Manipulation VIP

Atlanta, GA

- Developed and ran simulations on **Linux-based systems**, using scripting tools like **Bash and Python** for automated testing and deployment.
- Utilized **CI/CD** pipelines to manage collaborative development, ensuring reliable deployment and code integration
- Produced system architecture diagrams using **Figma** and contributed to optimizing algorithms for human behavior prediction by **30%**

PROJECTS

Budget Buddy | *AWS, TypeScript, Next.js, Git*

- Engineered Budget Buddy, a modern personal finance platform offering budget management. Features secure bank account integration via **Plaid API** and scalable user authentication powered by **AWS Amplify and Cognito**.
- Developed **7+ RESTful API endpoints** using **Next.js API routes** to handle **Plaid token exchange**, **account/transaction data fetching**, and **item management over custom date ranges**.
- Implemented dynamic data visualizations, including interactive Doughnut graphs, using **Chart.js** to present top spending categories and key financial metrics.

PickUp Play | *Firebase, TypeScript, React Native, Git, NoSQL, EmailJS*

- Led **agile development sprints** to deliver iterative improvements to a **full stack, cross-platform, end-to-end** app enabling users to find and join pickup sports games in real time.
- Conducted **25+ user interviews** utilizing **A/B testing** to refine **UI/UX** components, leading to a **40% increase** in game creation and reducing bounce rates by **20%**.
- Integrated **Firebase Authentication**, **Firestore**, and **Node.js backend** services to enable secure real-time updates, **RESTful API** functionality, multi-device support, and ensured **99.8% uptime** during user testing.

Precision Rails | *Python, Git, Pandas, Scikit-learn, HTML*

- Processed and transformed over **3 million** Polish train delay records; engineered features such as time-of-day windows and station indices to improve model accuracy.
- Built and evaluated a **neural network classifier** using **one-hot encoded** data; achieved **87% accuracy** and validated results using **5-fold cross-validation**.

Simple Airline Management System (SAMS) | *MySQL, Python, Pandas, Git*

- Implemented a **relational database** system for a simulated airline network, encompassing **15+ interrelated entities and 10+ complex relationships** to enable real-time tracking of flights, pilots, and revenue; applied **normalization up to 3NF** for data consistency and redundancy reduction.
- Created detailed use case and **Enhanced Entity-Relationship (EER) diagrams** to model complex airline operations, guiding the development of a scalable and logically sound database architecture.