Mary Benjamin

Software Developer

Dallas, Texas

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LinkedIn | GitHub | Portfolio

SUMMARY

Full-stack software developer proficient in **Java, Python, C, C++, JavaScript, Flask, ReactJS, and Node.js**, passionate about building user-friendly applications and debugging complex code. Experienced in **Test-Driven Development (TDD)**, Agile methodologies, and cloud-native applications.

TECHNICAL SKILLS

Front-End: JavaScript (ES6), TypeScript, ReactJS, Next.js, HTML5, CSS3, Bootstrap, Material UI
Back-End: Node.js, Express, Flask, RESTful APIs, PostgreSQL, MySQL, SQLite, MongoDB, InfluxDB
Programming Languages: Java, C, C++, Python, Scheme, MIPS Assembly, R
Tools & Technologies: Git, GitHub, Docker, NPM, MERN Stack, Algorithms, Data Structures, Jira, Gemini AI, Tableau, Weka, RStudio, Machine Learning, Apollo GraphQL, WSL, JMP

EXPERIENCE

Flight Software and Hardware Development Intern
National Aeronautics and Space Administration (NASA) | Johnson Space Center | Houston | 2025

- **Architected and optimized** a cloud-connected backend for a wearable health-monitoring device—built with **Python Flask, Apollo GraphQL, PostgreSQL, and InfluxDB**—that streams **1 M+ records/day** at **99.9 % uptime**, cuts query latency ↓ **65 %**, and delivers real-time data to a React front-end for seamless user insight.
- **Co-developed** a computer-vision/machine-learning pipeline that transforms Raspberry Pi camera feeds into exercise-tracking analytics, boosting motion-detection accuracy and enabling automated form assessments as part of health system for International Space Station and Artemis Mission.
- Part of the team that built a cross-platform **Flutter** UI for the on-device application, delivering an intuitive dashboard and configuration tools.
- **Streamlined** collaboration with **GitLab CI/CD** and **WSL2/Linux** scripting: automated test runs, managed local databases, and standardized deployment steps across Windows and Unix environments.

Software Engineering Apprentice
Thinkful | Remote | 2021 - 2022

- Developed cloud-native **full-stack** applications in an **Agile environment**.
- Executed **TDD** and **peer programming** to ensure clean, maintainable code with **high test coverage**.
- Designed and debugged **RESTful APIs** using **Node.js and PostgreSQL**.

Computer Assistant
The University of Texas at Dallas | Richardson, TX | 2019 - 2020

- Assisted students with **Virtual Local Machines (VMware)** troubleshooting.
- Managed **IT service tickets**, directing issues to appropriate departments.

EDUCATION

Master of Science in Software Engineering *(Expected Dec 2025, GPA: 3.8)*
University of Houston - Clear Lake

- **Relevant Coursework:** Software Engineering I & II, Agile Development, Data Science in R, Configuration Management, Software Engineering Life Cycle, AI Research and Seminar
- **Key Skills: Test-Driven Development (TDD), Feature-Drive Development (FDD), Object-Oriented Design (OOD), Agile, Scrum, Python, Java, R**

Bachelor of Science in Software Engineering *(Foundations Completed Apr 2024, GPA: 3.79)*
Arizona State University

- **Relevant Coursework:** Data Structures & Algorithms (Java), Operating Systems (C), Discrete Math, Computer Organization and Assembly Languages

- **Key Skills: C, C++, Java, Data Structures, Algorithms, Operating Systems, Linux**

Bachelor of Science in Healthcare Studies *(Graduated Dec 2020, Cum Laude, GPA: 3.63)*
The University of Texas at Dallas
- **Focus Areas:** Mathematics, Economics, Database Management (MySQL)

PROJECTS

Heart-Attack Risk Prediction — R, Weka, Tableau, RStudio, JMP
• Engineered and evaluated decision-tree & ensemble models (CART, C5.0, Random Forest) on 918 cardiac-patient records, achieving ROC-AUC ≈ 0.87 and 7 % precision uplift after K-means cohort clustering.
• Automated feature selection (InfoGain, PCA) to cut variables ▲40 % while retaining accuracy, surfacing resting-ECG and cholesterol as top predictors.
• Visualized model diagnostics (ROC curves, confusion matrices, SHAP feature importance) in Tableau and presented a 15-slide deck to faculty, guiding recommendations for targeted lifestyle-intervention trials.

Growing Garden 101 | Project Link
The application is built using the Python Flask backend and Vite React frontend. The Growing Garden 101 app uses Gemini AI and the customer's location based on browser data to give personalized plant-growing directions depending on the current weather
- ***Tech Stack:*** Python, Flask, JavaScript, Vite React, React Hooks, Bootstrap, MongoDB, Material UI, Artificial Intelligence (AI), API Calls.

Restaurant Reservation App | Project Link
Full-stack application enabling restaurants to schedule, edit, seat, and delete reservations. Prioritized mobile-first design
- ***Tech Stack:*** JavaScript, ReactJS, React Hooks, Bootstrap, Node.js, Express.js, PostgreSQL

We Love Movies | Project Link
Developed a **complex backend** for managing movie data, and optimizing API interactions.
- **Tech Stack:** Express.js, Knex, RESTful APIs, PostgreSQL, React.js

Flashcard App **|** Project Link
Built a **React-based** flashcard application with user-defined routes and reusable forms.
- **Tech Stack:** JavaScript, React.js, React Hooks (`useEffect()`, `useState()`, `useParams()`, `useHistory()`)