Ehiane Kelvin Oigiagbe

Career Objective

Full-stack Software Engineer with hands-on experience building full-stack applications, writing scalable code, and applying software testing practices. Proficient in Python, JavaScript, C++, C#, SQL, and NoSQL(MongoDB), with a strong foundation in test-driven development.

Education

Washington State University – Pullman, WA
Bachelor of Science in Computer Science – Cum Laude   **Graduated May 2025**

- **6x Dean's List** Academic Achievement Award Recipient, **GPA: 3.63**
- **Relevant Coursework:** Advanced Data Structures & Algorithms, Programming Language Design, Computer Architecture, Object Oriented Design, Web Development, Database Management Systems, Neural Network Design, Artificial Intelligence.

Skills

- **Programming Languages:** Python, C, C++, C#, JavaScript, Swift, Typescript, Haskell, XML, HTML, CSS.
- **Concepts**: Data structures and Algorithms, Scalability, OOP, Software Design Patterns, Agile Development.
- **Frameworks & Libraries**: Flask, React.js, Node.js, Express.js, .Net, SQLAlchemy.
- **Systems**: CI/CD Pipelines, API Development, Scalable Web Applications.
- **Databases**: SQL (PostgreSQL, MySQL), NoSQL(MongoDB), RDBMS.
- **Development & Tools**: Git/GitHub, Jira, Postman, Linux, PowerBI, REST APIs, Power Query (MS Excel).
- **Testing & Automation:** NUnit, Selenium, Cypress, Unittest, Pytest, GitHub Actions, TDD (Test Driven Development)

Work Experience

Software Engineer   June 2025 – Present
Jeroyaf Accounting & Tax Service   Remote

- Automated bank statement processing using Python regex and pandas, implementing dynamic transaction classification with comprehensive unit testing for 100% accuracy across multiple financial formats.
- Built scalable PDF-to-Excel financial pipeline with automated transaction splitting and configurable output generation, reducing manual data entry and improving accounting workflow efficiency.
- Developed comprehensive testing framework for financial data processing using Python unittest with VS Code integration, ensuring robust transaction classification for accounting software compatibility.

Software Engineer   February 2025 – Present
Plum AI (Pangeon.com)   Remote

- Spearheaded frontend development for an **AI-powered** chatbot UI that **enables automated calendar scheduling** through **Google and Microsoft calendar APIs**, streamlining booking for **17+ users**.
- Engineered secure **OAuth-based** authentication flows to integrate external calendar services, ensuring seamless and reliable event syncing.
- Designed and implemented a reusable UI widget for deployment across the company's marketing website, aiming to increase user engagement by **30%.**
- Worked directly with backend engineers to prototype and co-define API contracts in early sprint stages, reducing integration time by 35% and simplifying frontend integration for future updates.

Software Test Engineer Intern   September 2023 – December 2024
Schweitzer Engineering Laboratories Inc.   Pullman, WA

- Automated test script execution using C# and Python to validate embedded systems, increasing regression coverage **40%.**
- Redesigned the Station Support Request (SSR) tool for **product managers** and **test engineers** by building a Power BI dashboard with Python and internal APIs, improving data accessibility, **reducing troubleshooting time by 20%.**
- Converted legacy 2488 test scripts to in-house programming language automation modules, improving maintainability and enabling future extensibility.
- Contributed to failure analysis discussions during team standups using internal APIs to provide deeper failure insights, reducing meeting duration by 5-10 minutes and increasing time for focused engineering work.
- Collaborated with **test engineers**, **product managers**, and **software engineers** across teams to **investigate product issues** and **resolve test failures**, ensuring **smoother releases** and **faster feedback cycles**.

Cougar Card Center – Washington State University   September 2022 – September 2023
Clerical Assistant   **Pullman, WA**

- Provided frontline technical and support for campus ID and account systems, ensuring seamless access and services for students and faculty.
- Boosted customer satisfaction and ID card replacement sales by 10% through proactive communication and problem-solving.
- Reduced onboarding time for new employees by 50% by documenting support workflows and updating training materials.

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Projects

Capstone Project: Milestone Inventory Tracking App | **JavaScript, React, Express.js, MongoDB, Agile Methodology**

- Replaced legacy Excel-based system with a full-stack SaaS application to track adaptive equipment for residents with developmental disabilities, improving data accuracy and reducing tracking errors by 40%.
- Engineered RESTful APIs and modular frontend React components to streamline inventory workflows, enhancing user efficiency by 30%.
- Built and executed automated test suits (unit to E2E) using Jest, Cypress, and Supertest to maintain code reliability under varying load conditions.
- Automated CI/CD pipelines with GitHub Actions, reducing deployments time by 60% and improving development velocity.

Hackronomics – AI-Powered Financial Assistant | **JavaScript, Typescript, React, Express.js, three.js, MongoDB, OpenAI**

- Hackathon award-winning full-stack web app built to track personal expenses and suggest cost-saving alternatives using OpenAI-powered insights.
- Designed scalable backend pipelines to process categorized transaction data and deliver real-time AI recommendations.
- Developed frontend interfaces using React and three.js to visualize financial trends and enhance user engagement.
- Won **"Best use of MongoDB"** at WSU CrimsonCode 2025 hackathon for advanced use of document modeling and efficient querying.

Fundraiser Management System | **C#, .NET Framework, WinForms, XML, NUnit**

- Designed and implemented a Windows Forms application enabling students to register clubs, launch projects, and apply for scholarships, simulating real-world fund management workflows across multiple user roles
- Developed a robust XML-based database engine to persist in users, transactions, donations, and project records, ensuring data integrity across dynamic forms while supporting profile image storage and retrieval
- Applied design patterns (Factory, Singleton, MVC) to build maintainable, modular components and services(e.g., AuthenticationService, TransactionService), leading to clean separation of concerns and easier testability
- Wrote over 25+ NUnit test cases (normal, boundary, and exceptional) across user, scholarship, and project modules, contributing to a reliable and fault-tolerant codebase tested under various scenarios

Spreadsheet Engine – Object-Oriented Desktop Application | C#, .NET Framework, WinForms, OOP Principles

- Built a spreadsheet application from scratch using object-oriented design principles to support cell editing, formula parsing, and dependency tracking.
- Implemented core functionalities including expression trees, undo/redo, file I/O, and color formatting, enhancing user interaction and data organization.
- Applied unit testing to validate formula evaluation, cell references, and event handling, ensuring robust and bug-resistant application logic.

IMDb Movie Sentiment Analysis | Python, TensorFlow, Keras, NLTK, Pandas, NumPy, Matplotlib

- Developed an LSTM-based sentiment classification model using TensorFlow and Keras, achieving 84% accuracy on IMDB movie reviews.
- Preprocessed and vectorized 50,000+ review texts using texts using tokenization, padding, and word embeddings to prepare model training.
- Evaluated performance through loss/accuracy visualizations and incorporated layers to mitigate overfitting and improve generalization.

Yelp Data Analysis & Insights | Python, SQLAlchemy, Pandas, PostgreSQL, Matplotlib | Video

- Built an end-to-end ETL pipeline to process over 6 million Yelp records, enabling interactive queries and geographic business search across cities, zip codes, and categories.
- Designed custom use cases for business lookups, popular and successful business detection, and zip code-level analysis with real-time filtering and review aggregation.
- Wrote modular SQLAlchemy-powered scripts to support scalable backend querying, reducing execution time by 40% for high-volume searches.
- Developed matplotlib visualizations to present business performance metrics like star ratings, review volume, and check-ins, aiding pattern discovery across states.

StudentFacultyResearchPortal | **Python, Flask, SQLAlchemy, HTML, CSS, Unittest** | Video

- Built a mock research matching platform from scratch, enabling faculty to post research openings and students to apply securely with account-based role control.
- Led test-driven development using Unittest and Pytest, achieving 95% test coverage and ensuring backend reliability across project workflows.
- Designed modular Flask blueprints and ORM-based models to simplify future contributions, enhance code maintainability, and support long-term scalability.

HarvardSchoolAkute Website | **HTML, CSS, JavaScript, PHP, Hostinger, Google Analytics**

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- Designed and deployed a responsive website for a Nigerian school, using SEO strategies and interactive layouts to enhance user engagement.
- Leveraged **distributed hosting** to ensure uptime and scalability, contributing to a 13% increase in student enrollment.

Leadership

NSBE (National Society of Black Engineers) at WSU
Director of National Communications and Conferences   September 2022 – May 2025
- Revived WSU's presence at NSBE national conference after 4-year hiatus, coordinating logistics, travel and registration for 15+ students.
- Spearheaded outreach to corporate partners and faculty to secure sponsorship and campus support for underrepresented students in tech.
- Designed communications and promotional content to increase awareness of NSBE's mission, leading to a 30% increase in student interest and participation across STEM majors.
- Facilitated cross-campus collaborations with other Black student organizations, creating shared programming that emphasized community building and professional development.

Emerald High School -Ogun-Ori, Ogun State, Nigeria   January 2020 - July 2020
Senior Prefect
- Oversaw academic and disciplinary leadership programs, representing and supporting a student body of 350+ peers.
- Collaborated with faculty to lead school-wide punctuality initiatives, resulting in measurable improvements earning the Role Model Award at graduation.
- Co-led the *Helping Hands* initiative, coordinating student-led donation drives to support underprivileged families in the local community.
- Instituted weekly prefectship meetings to evaluate leadership performance, address challenges, and promote continuous improvement across the student body.