

Neskines Otieno

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PROFESSIONAL SUMMARY:

Student Researcher candidate currently pursuing an Honors Bachelor of Technology in Software Development at Seneca College, graduating December 2025. Focused on applying technical knowledge to explore innovative solutions in real-world problem domains. Experienced in full-stack development, data analysis, and translating research objectives into working prototypes. Actively seeking a Student Researcher opportunity to collaborate with cutting-edge teams, develop and test hypotheses, refine my knowledge in AI/ML and software engineering, and contribute to impactful scientific and technological advancements.

TECHNICAL SKILLS:

- Programming Languages: Python, C/C++, JavaScript, C#, Kotlin
- Frameworks & Tools: React, Django, Flask, Firebase, Streamlit, Unreal Engine (Blueprints)
- Cloud & Infrastructure: AWS (S3, RDS, EC2), Render, Streamlit Cloud
- Databases: PostgreSQL, MongoDB, MySQL, Oracle, Firestore
- Development Practices: Git, JIRA, Agile Methodologies, Unit/Regression Testing
- Data Science & Machine Learning: scikit-learn, pandas, matplotlib, seaborn, RFM analysis, Clustering (KMeans)
- Research-Oriented Skills: Technical Research, Data Analysis, Accessibility (AODA), Risk Mitigation, System Design
- Technologies: Power BI, SharePoint, Visual Studio, Android Studio
- Strong understanding of Algorithms, Data Structures, and Optimization Techniques
- Languages: Fluent in English and Swahili (verbal and written)

EDUCATION:

Seneca College - Toronto, ON | Honors Bachelor of Technology Software Development

Currently enrolled full-time student

Expected graduation: December 2025

RESEARCH & TECHNICAL PROJECTS:

PennyPincher by Neski – Personal Finance Tracker (Web & Android)

- Developed a full-featured personal finance web app using Next.js, React, Firebase, and TypeScript, enabling users to manage expenses, income, budgets, and savings goals.
- Engineered secure user authentication and session management using Firebase Authentication, ensuring account protection and smooth user experience.
- Designed interactive dashboard visualizations showing monthly spending, income, net balance, and budget progress, improving financial insight accessibility by 40%.
- Integrated AI-powered category suggestions using Google Genkit, reducing manual entry time by 30% and enhancing data accuracy.
- Currently developing the Android version of the app using Kotlin and Jetpack Compose, maintaining feature parity and Firebase integration for consistent cross-platform experience.

- Wrote over 8,500 lines of code, including UI, authentication, AI integration, Firestore queries, charting, and form validation.

Customer Segmentation Web Application

- Designed and built a web-based segmentation tool using Python, Streamlit, and scikit-learn for dynamic behavioral clustering.
- Integrated machine learning (KMeans) and data science techniques (RFM analysis) to analyze customer behavior, improving interpretability by 35% (Silhouette Score).
- Enabled interactive data uploads, column mapping, and exportable insights, increasing usability by 50% during user trials.
- Deployed via Streamlit Cloud with version control to support real-time stakeholder demos.

Josh in a Dream – Third-Person Platformer Game | Unreal Engine 5.5

- Developed a third-person platformer game set in a surreal dreamscape, featuring exploration, combat, and puzzle-solving mechanics.
- Designed and scripted core gameplay systems using Unreal Engine's Blueprint system, including moving platforms, jump stations, health pickups, enemy AI and checkpoints.
- Utilized UE5.5's Nanite and Lumen technologies for high-fidelity visuals, dynamic lighting, and optimized performance.
- Conducted systematic end-to-end testing for gameplay logic, reducing bug-related crashes by 70% across game level by scripting test scenarios in Unreal Engine.

E-commerce Web Store

- Developed a personal full-stack e-commerce web application using Django for the backend and React for the frontend.
- Utilized PostgreSQL Cloud to manage the product backlog and ensure efficient database operations and Firebase for user authentication and role-based access control.
- Designed user-friendly product management interfaces for browsing and purchasing products.
- Analyzed database query efficiency and optimized cart operations, resulting in a **25%** faster checkout experience during simulated testing.
- Wrote over 6,000 lines of code, including 3,000 in Django (backend), 3,000 in React (frontend), and 500 in test scripts

Spreading positivity board

- Built a Flask web app using python during a peace-focused hackathon to foster mental well-being through user-submitted uplifting content.
- Leveraged Firebase authentication and Firestore database for secure, real-time data handling.
- Researched and implemented a content moderation system, reducing inappropriate submission risk by **90%** in test simulations.
- Wrote 426 lines of code, including user interface logic, Firebase integration, content filtering, and backend routing.

Web-based Ticket Management Application

- Developed a python-based ticket management web application using Django database.
- Implemented user authentication, task creation, and tracking features.
- Utilized Agile methodologies for project management.
- Collaborated with a 4-member team using Agile methodology and JIRA, maintaining a 100% sprint completion rate over 4 sprints.
- Wrote 4,083 lines of code, covering models, views, authentication, admin customization, and frontend components.

WORK HISTORY:

BACKEND DEVELOPER

08/2024 to 12/2024

Ministry of Public and Business Service Delivery and Procurement

- Managed a full project lifecycle in collaboration with a Project Manager and presented findings to executive leadership and clients.
- Worked with relational databases (Oracle and PostgreSQL) for data modeling, optimized querying, and backend development, leveraging AWS for scalable cloud integration.
- Conducted cybersecurity risk assessments for vendor services and ensured compliance with data protection standards.
- Coordinated and facilitated user acceptance testing (UAT), capturing over 20+ usability issues, which informed UI/UX refinements in successive releases.
- Executed the secure cloud migration of classified documents to AWS, achieving zero data loss and establishing monitoring pipelines to validate storage integrity.
- Conducted systematic testing across deployment pipelines to validate service functionality and integration stability.

I&IT DATA ANALYST

04/2024 to 08/2024

Ministry of Public and Business Service Delivery and Procurement

- Conducted AODA accessibility audits and authored updated documentation for 6 internal platforms, ensuring full compliance and audit readiness.
- Researched and implemented new Power BI reporting techniques to improve data visibility, resulting in a 20% reduction in report generation time.
- Delivered live dashboards integrating multiple data sources, which improved stakeholder data visibility and reduced report requests by 15%.
- Performed regression testing on user utilities and created test cases derived from Business Requirements Documents (BRDs).
- Analyzed performance metrics from testing cycles to identify system inefficiencies and areas for optimization.
- Interpreted BRDs and Solution Design Documents (SDDs) to guide technical strategy and contributed actionable insights to the project team.
- Managed and maintained a client list with 100% accuracy, ensuring consistently updated and reliable stakeholder data.

RETAIL PRODUCT SPECIALIST

01/2023 to 12/2023

Skechers

- Led a team of 5 sales associates, managing daily operations in a high-volume retail store.
- Implemented customer engagement strategies that increased sales conversion by 15%.