

# MARK KANYI KAMUYA

San Francisco • (628)3586787 • [kamuyakanyi1@gmail.com](mailto:kamuyakanyi1@gmail.com)

• [linkedin.com/in/mark-kamuya-4174b2266](https://www.linkedin.com/in/mark-kamuya-4174b2266) • [github.com/markkamuya](https://github.com/markkamuya) • [kamuya-portfolio.vercel.app](https://kamuya-portfolio.vercel.app)

## EDUCATION

**B.Sc. Computer Science** **Minerva University** May 2028

- Data Structures & Algorithms, Linear Algebra, Calculus & Statistics

## SKILLS

- **Frameworks:** Flask, React, Scikit-learn, Seaborn, Pandas, Node.js, SQLAlchemy
- **Cloud Platforms:** AWS (EC2, RDS, S3), Firebase (Authentication, Firestore, Hosting)

## EXPERIENCE

**Community Leader | CLG 2025** **CodePath** March 2025 - Present

- Facilitate technical peer mentorship for 30+ students, boosting weekly engagement
- Coordinate study groups and knowledge-sharing sessions to reinforce foundational concepts

**Co-founder & Backend Engineer** **SnapShop** September 2024 - Present  
([applicationalee.onrender.com/](https://applicationalee.onrender.com/))

- Co-founded a price comparison app for Minerva students, 100+ users.
- Designed scalable Flask + PostgreSQL backend; cut average query time by 25% via schema indexing
- Boosted recommendation F1 score by 15% using Pandas-based pattern filtering logic
- Designed and implemented secure session management and role-based CRUD operations

## PROJECTS

**Software Developer** **Influenza Simulator** March 2025

([github.com/markkamuya/sir-simulator](https://github.com/markkamuya/sir-simulator))

- Simulated 2D influenza transmission using 100 autonomous agents and probabilistic SIR model
- Solved diseases dynamics via Euler's method and visualized results with real-time matplotlib plots
- Developed robust unit test suite covering 90%+ logic branches; caught edge case regressions early

**Lead Engineer | Team of 4** **Google's Women Techmakers** November 2024

([devpost.com/software/dominate](https://devpost.com/software/dominate))

- Developed a web platform to simulate consequences of micro-decisions in offices in real time
- Designed RESTful Flask API with stateless session tracking for seamless progress continuity
- Implemented an adaptive scoring color bar in JavaScript for real-time user performance scoring

**Backend Engineer | Team of 6** **NASA International Space Apps Challenge** October 2024

([bit.ly/4lcJ6Mr](https://bit.ly/4lcJ6Mr))

- Designed a mobile app to help women in Arid Lands locate nearby water sources, saving time
- Converted NASA S.W.O.T. data to GeoJSON, achieving near 100% accuracy in water body location
- Implemented Dijkstra's algorithm into a mapping system for precise shortest-path directions
- Integrated Google Translation API for Swahili translations, improving accessibility

**Backend Developer** **Dynamic Argument Validity Checker** October 2024

([github.com/markkamuya/Logic-Validator](https://github.com/markkamuya/Logic-Validator))

- Designed a formal logic expression validator in Python
- Built a truth table using binary representations to handle all possible truth values for the premises
- Used Pandas for efficient generation/storage of premise combinations

## AWARDS

**Winner | Team of 2** **Hack the Interview Coding Competition** October 2024

**Google Developer Student Club**

- Solved complex linear data structures problems within 2 hours using optimized solutions
- Recognized for optimal space/time complexity; earned exclusive Google site visit