

EDUCATION	
ALX Africa Software Engineering	Nairobi, Kenya Nov 2023 - Jan 2025
Stanford University, Department of Genetics Fundamentals of Data Science in Precision Medicine & Cloud Computing, AI/ML	Stanford Data Ocean, Remote May - July 2025

SKILLS SUMMARY	
• Languages:	Python, JavaScript, SQL & NoSQL, C, R, TypeScript
• Frameworks:	Flask, Django, FastAPI, NextJS, Pandas, Numpy, Scikit-Learn, Matplotlib
• Tools:	Supabase, Prisma, SQLAlchemy, AWS S3, PyTorch, TensorFlow, MySQL, PostgreSQL, Redis, MongoDB
• Platforms:	Visual Studio Code, Jupyter Notebook, Vi / Emacs
• Soft Skills:	Proficient in Communication, Problem-solver, Time management & organization, Team player, Adaptability

WORK EXPERIENCE	
In-House Group Software Engineer LINK	November 2024 - August 2025
<ul style="list-style-type: none">Designed and implemented a monthly user matching algorithm using Prisma and TypeScript, achieving >90% matching efficiency across approved members.Built an enhanced scoring system with weighted specialties/interests, anti-starvation, prioritization, and recency-aware matching to ensure fairness and inclusivity.Engineered scalable batch processing logic capable of handling 500+ users per cycle without performance degradation.Developed smart randomization with deterministic test-mode sorting, balancing reproducibility during testing with diversity in production matches.Automated match notifications and feedback workflows, sending 100+ personalized emails per cycle with batched delivery for performance and rate-limit compliance.Implemented robust retry and advisory lock mechanisms, guaranteeing fault-tolerant execution under database or networking instability.Created odd-user and unmatched-user handling strategies, including admin fallback pairing and priority boosts in future cycles, reducing member exclusion.Integrated feedback survey scheduling post-match to gather engagement insights, helping improve user experience and retention.Enhanced system observability with structured logging, match statistics, and efficiency tracking, enabling quick debugging and transparent reporting.	

PROJECTS	
Stanford Data Ocean Projects (Bioinformatics, AI/ML)	May 2025 - July 2025
<ul style="list-style-type: none">Built CNN-based image classification models using TensorFlow to classify medical images (e.g., Pneumonia detection).Visualized transcriptomic and epigenetic data using heatmaps, volcano plots, and PCA in Python and R.Queried and analyzed the 1000 Genomes project using PyAthena and AWS S3, and implemented heat maps to draw insights from the data.Applied dimensionality reduction techniques (PCA, UMAP, t-SNE) on omics data.	
YouTubeIntel LINK	February 2025- June 2025
<ul style="list-style-type: none">Built and deployed the YouTubeIntel platform for YouTube channel discovery and analytics, through a robust batch channel discovery algorithm, capable of handling 5-15 million channels.Developed a robust credit-based monetization system with tiered pricing and Redis-backed rate limiting.Designed a secure authentication system with JWT, Google OAuth, device/session tracking, and HTML email flows (Resend).Built an AI-powered channel analytics API to give deeper insights into videos and channel metadata.Implemented WebSockets for real-time notification updates.Integrated an eventlet background worker with Gunicorn to handle asynchronous operations for non-blocking threads, leveraging eventlet.monkey_patch().	
Image Classifier CNN Model: “Bird or Forest”	April 2025
<ul style="list-style-type: none">Collected and curated image datasets of birds and forests using DuckDuckGo Search API.Preprocessed images to 192 x 192 resolution, handled corrupted files, and ensured clean data ingestion.	

- Trained a ResNet-18 CNN model using FastAI, achieved a 0% validation error, and no signs of overfitting.
- Successfully deployed model using .pth format for Hugging Face compatibility.

Brand Identity API

June 2025

- Built an API to extract brand elements (logo, palettes) from websites using Playwright and ColorThief.
- Integrated GPT-4o for intelligent tagline and identity generation.
- Added Redis caching and rate-limiting for scalability and performance optimization.
- Tested extensively on dynamic, JS-heavy sites like Airbnb.com.

CERTIFICATES

Software Engineering – ALX Africa | [CERTIFICATE](#)

February 2025

- Mastered fundamental Python syntax, proficiently utilizing control flow, loops, functions, and data structures.
- Acquired expertise in procedural programming paradigms, system design, and associated logical concepts, enhancing capabilities.
- Mastered object-oriented programming in Python, including MVC and MTV web frameworks.
- Mastered fundamental C programming and implemented data structures like Linked Lists, Binary Trees, Stack & Queues, Pointers, Arrays, and Heaps.

Fundamentals of Data Science in Precision Medicine and Cloud Computing – Stanford University

May - July 2025

- Developed a comprehensive understanding of omics data and various stages involved in data analysis.
- Queried health data using R and Python programming tools to draw insights, and visualized the insights using heat maps and volcano plots.
- Trained CNN and linear regression models on health data for predictions of patterns or trends, as well as curating insights from datasets.



Stanford
MEDICINE

Department of Genetics



Fundamentals of Data Science in Precision Medicine and Cloud Computing

Program Duration: 40 hours

CERTIFICATE OF ACHIEVEMENT GRANTED ON JUNE 30, 2025 TO

Gabriel Effangha

Lars Steinmetz, PhD

Dieter Schwarz Foundation Endowed Professor
Chair, Department of Genetics at Stanford University