Eldar Hasanov

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Education

Imperial College London — London, UK
Master of Science in Advanced Computing (Security and Reliability) — *September 2025 – September 2026*

University of California, Berkeley — Berkeley, CA, USA
*Bachelor of Arts in Computer Science, GPA: **3.7/4.0** (First-class UK)* — *August 2021 – May 2025*

- **Relevant coursework:** Operating Systems, Computer Security, Networks and Internet Protocols, Artificial Intelligence, Database Systems, Advanced Efficient Algorithms, Data Structures, Computer Architecture, etc.

Technical Skills

Programming Languages: Java, Python, Go, C, JavaScript, HTML/CSS, SQL.
Systems/Tools: Git, Docker, GDB, AWS, GCP, Firebase, PostgreSQL, MongoDB, Linux/Unix, Jira, CI/CD, Cursor.
Libraries/Frameworks: Flask, FastAPI, React, Node, Express, Spring Boot, OpenAI API, JUnit Test, REST API.

Highlighted Experience

UC Berkeley, CS Ed Research & Development Group — August 2024 – August 2025
Research and Development Engineer, Project Lead — *Berkeley, CA, USA*

- Led a team of **4** engineers to design and deploy a **cloud-native platform** of **4 microservices** (Python Flask, React, Redis) on **GCP**, delivering real-time grade and progress insights to instructors and students.
- Architected reverse-proxy infrastructure and built end-to-end **CI/CD** pipelines with automated testing, and oversaw production deployment over **3** academic terms, supporting **750+** students with **90%** satisfaction.
- Built a real-time dashboard with a custom **ETL** pipeline for **HTTP logs**, tracking traffic, auth, and error rates.
- Applied **Agile** practices through weekly code reviews, task delegation, and sprint management on **Jira**.

University of Southern California, Information Sciences Institute — May 2024 – September 2024
NLP Research Assistant — *Los Angeles, CA (Remote)*

- Boosted classification accuracy from **53%** → **88%** on style-guide rule violations by building **Python** classifiers with logistic regression, **BERT**, and **OpenAI API**-powered ELT pipelines for a new class of LLMs.
- Reduced model training time by **20×** by migrating algorithms to HPC clusters, supporting faster model iteration

1PR Brands - SoundScope — April 2023 – February 2024
Software Engineering Intern — *New York City, NY (Remote)*

- Developed **2** full-stack MVP applications with **React.js** frontends and **Python Flask/FastAPI** backends, deployed on AWS; integrated **6** external data APIs to automate the curation of a data on **30,000+** artists.
- Optimised **PostgreSQL** schemas and applied Amazon CloudFront caching, achieving **4×** faster response times.

Highlighted Projects

BearRank: Student Course Review Platform | *Python, React, SQL* — Summer 2025

- Founded and launched a UC Berkeley course-review platform, scaling to **1,000+** weekly visits and **150+** registered users within 10 days; fully designed, architected, and deployed from concept to production *[Website]*.
- Built a full-stack system with **FastAPI**, **React.js**, and **PostgreSQL**; deployed Dockerised services via **GCP Cloud Run**, **Neon**, and **Firebase**, while implementing **CI/CD pipelines**, automated testing, and REST APIs.

Interactive Graph Assessment Suite | *Open-source, Python, JavaScript* — Autumn 2023 – Summer 2025

- Developed a pair of open-source graph learning tools (graph editor + assessment platform) for the **PrairieLearn** system, enabling real-time manipulation, randomised questions, and autograding in under **100ms** *[GitHub]*.
- Deployed at UC Berkeley, handling **5,000+** submission from **1,200+** students with **15×** grading efficiency.
- Published and presented tools in **2 peer-reviewed** ACM conferences (SIGCSE 2025, CompEd 2025) *[ACM]*.

PintOS Operating System | *C, Kernel Programming, Systems Design* — Autumn 2024

- Engineered a single-core operating system in **C**, implementing 18 system calls with POSIX-style process/thread creation and I/O; ensured safe multithreading through a CPU Strict Priority scheduler and locks/semaphores.
- Redesigned the initial file system by replacing FAT with a **Unix-style** i-node FFS and LRU buffer cache, cutting disk access latency by ∼**80%** while supporting reliable read/write, append, and delete operations.

Secure File Sharing System | *Go (Golang), Encryption, Security* — Spring 2024

- Designed and implemented an end-to-end encrypted file sharing system in **Go (Golang)**, supporting multi-user storage, access revocation, and rollback/replay protection; applied cryptography, HMACs, and digital signatures.
- Developed a stateless key-value store on an untrusted database, detecting **73%** of **3000+** simulated attacks.