

Demetre Shonia

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Education

Bachelor's degree in Computer Science

Expected Graduation: August 2025

Kutaisi International University - KIU

- Program conducted in collaboration with **Technical University of Munich (TUM)**, featuring core subjects taught by **TUM** faculty, such as Software Engineering (**GPA 4.0**), Computer Architecture (**GPA 4.0**) and Fundamentals of Programming in **Java** (**GPA 4.0**).
- Selected as one of 15 **Student Teaching Assistant** in the **Java** programming course among 200 students.

Natural Language Processing Research Assistant

Supervisor: [Prof. Walter Tichy](#)

- Conducting research on **Graph RAG Systems** for Claude AI under the supervision of **Prof. Walter Tichy**, a pioneer in software engineering and **NLP**, known for his work on version control systems predating Git.
- Focused on enhancing natural language understanding and **retrieval-augmented generation (RAG)** algorithms in **Python** using **NetworkX** for knowledge graph construction and **Hugging Face** for language model training and embeddings.

Experience

Co-Founder and CTO of Hoppla • Tbilisi, Georgia

February 2024–Present

Successful carpooling [Platform](#) connecting passengers and drivers nationwide, generating revenue from booking fees.

- Built the frontend using TypeScript, **Next.js**, and TailwindCSS for a responsive and efficient user interface.
- Deployed the platform and **PostgreSQL** Database on Azure VPS using **Docker** and integrated Amazon S3 for secure file storage, ensuring scalability and reliability while reducing costs by 30% compared to Vercel.
- Secured grants from Google Cloud, Azure, and Amazon startup programs totaling **\$4,000**, funding 80% of development costs and enabling the acquisition of additional development tools that boosted the overall dev experience.

Lead Unity Developer at Ailand • Lisbon, Portugal (Remote)

December 2022–September 2024

Open-world PvPvE shooter with a pre-launch community of **900,000** players, driven by unique **AI-NFT** avatar technology and blockchain-enabled custom in-game tokenomics.

- Led the project [Eternity](#), delivering milestones on time in **C#** Unity, which built trust in the community, boosted NFT sales, and helped secure a **\$50,000** investment from a Ukrainian angel investor through team efforts. The success attracted interest from **Silicon Valley**, enhancing the company's image and credibility.
- Developed and tested low-latency **multiplayer** systems, leveraging client-server architecture (Photon Fusion).
- **Optimized** large maps for low-end PCs using a chunk-based approach for terrain management and applying advanced shader and mesh optimizations, boosting frame rates for low-end players by **400%**, while also reducing build size by a factor of **2.5**.
- Integrated **Azure's TTS** and **STT** services for AI-NFT voice interactions. Utilized Azure **PlayFab** to develop and test systems for character customization, shop, inventory, battle pass, loot boxes, chat and **IAP** (Stripe).

Other Projects

- **Autonomous self-driving cars** - for Duckietown using **Python**, implementing **computer vision algorithms** for line-following and traffic signal detection to navigate and stop on red lines.
- **Quaternion Mandelbrot** - and Mandelbulb fractal simulator using shaders with audio detection. (C#, HLSL)
- **Handwritten Curve Detector** - approximate graphs using three different numerical methods. (Python)
- **Twitter clone** - using Flutter and Appwrite with features including like, tweet, follow and a real-time feed.

Leadership and Awards

- **Social Impact Award** - Team Hoppla will attend the **SIA Summit in Mannheim, Germany**, in November 2024.
- **NASA Space Apps Challenge** - Won the local hackathon by developing an **OCR** handwritten text converter using Python with an n-gram approach.
- **Global Hackathons** - As part of Team Ailand, won multiple global hackathons, including Polygon EMEA, SAGA Multiverse, Zeta Chain-Omni Chain Hackathon, and BNBChain Q1 2024.
- **Lecturer at GITA | ICT Trainings** - Mentored 16 students in C# and Unity Engine, organized the Ozurgeti Game Jam 2023, and ran my YouTube channel with 2,500 subscribers featuring 80 educational videos.
- **EuPho 2024** - Served as the **Team Singapore** guide at the 2024 European Physics Olympiad.
- **Academic** - awarded a gold medal, a laptop, and a 70% university scholarship from the Ministry of Education.