## Curriculum Vitae

Alexandros 'Alé' Pouroullis

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#### **Summary:**

Software engineer with a strong foundation in building full-stack systems from scratch, with recent experience focused on developer tooling and infrastructure for LLM-powered applications. Comfortable navigating ambiguity, moving fast without breaking things, and shipping thoughtful, production-grade features. Experience spans AI-enabled social products, mobility and payments platforms, and cutting-edge LLM tooling. Particular strengths in system architecture, DevOps, and building developer experiences that scale.

# 1 Professional Experience

# Humanloop — AI Tooling Startup London. UK

Product Engineer

March 2023 - Present

- Contributed across the stack at fast-moving AI startup building infrastructure and UX for LLM application development
- Led overhaul of prompt versioning system, redesigning UI and backend model to improve workflows.
- Drove improvements to SDK (TypeScript and Python) and created CLI to enable local development, version control, and seamless prompt iteration
- Led Pydantic v2 migration addressing critical technical debt to improve security and enforce stricter validation
- Collaborated with founders and early customers to prototype, test, and ship user-facing features

gather — AI Social Assistant

Sole Developer

August 2024 – January 2025

Cape Town, ZA

- Independently designed and launched full-stack social platform from concept to App Store release in 5 months
- Built native iOS app in SwiftUI with real-time chat, push notifications, and media sharing [App Store Link] (app still listed but servers permanently offline)
- Developed scalable backend using Django, PostgreSQL, Redis, and Celery for async task processing
- Integrated AI features
- Deployed infrastructure with Terraform: AWS ECS, Aurora, ElastiCache, and CloudFront CDN
- Set up CI/CD with GitHub Actions and container registry for automated deployments

- Built end-to-end software stack powering \$1.2M annual revenue mobility and payments platform
- Developed WhatsApp-to-payment pipeline via WhatsApp Business API + PayStack, enabling novel payment UX and attracting Visa partnership
- Architected React/TypeScript frontend and Node.js/Express backend for booking and ride management
- Designed AWS cloud infrastructure, databases, and deployment pipelines from scratch

Elevat3d — Blast Analysis SaaS Cofounder, Lead Frontend Developer July 2022 – August 2024 Remote

- Led frontend development for mining analytics tool shortlisted for Y Combinator (top 7% globally)
- Built complex blast visualization UI using HTML Canvas and integrated ML model results
- Developed SPA in React with Redux, integrated with FastAPI backend
- Implemented user auth and file system with Firebase; collaborated closely on ML integration

## 2 Research Experience

## Automatic Damage Recovery in Hexapod Robots

July 2023 - December 2023

- Developed Python simulation framework using PyBullet physics engine to study robot damage adaptation
- Generated extensive datasets of robot walking behaviors on national supercomputer (CHPC)
- Implemented and tested SUPG controller for damage recovery in simulation environment
- Analyzed and visualized results to demonstrate effectiveness of adaptation strategies
- Work led to full paper acceptance at 2025 IEEE Symposium on Computational Intelligence in Artificial Life (IEEE CIALIC) [10.1109/ALIFE-CIS64968.2025.10979837]

## 3 Education

## Bachelor of Science in Computer Science

December 2024

University of Cape Town, South Africa

Dean's Merit List, GPA: 77.55%

- Relevant Coursework: Machine Learning, Artificial Intelligence, Robotics, Data Structures and Algorithms, Software Engineering
- Final Year Project SeaClear: Built full-stack water quality monitoring system for Cape Town
  - Selected as top project among 8 groups for publication and presentation
  - Developed with Next.js frontend and Flask backend, using Docker Compose for deployment
  - Implemented WebSocket integration, MongoDB database, and Apache server configuration
  - Built comprehensive admin interface for content management and moderation

# 4 Competitions

#### FinHub Hackathon 2023 - 1st Place

Built a full-stack voting platform on Algorand with smart contracts and secure vote verification. Received development funding and individual developer grant.

### Loop Q Prize 2022 - 4th Place

Built a CNN-based system for speech emotion recognition. Resulted in six-month research position offer.