Tom Leverstone

Senior Software Engineer

Contact

tleverstone@gmail.com
leverstone.me
github.com/nagasaki45
07397965017
London

Skills

Team player

Self learner

Strive for quality

Attention to details

Teaching and mentoring

Backend: Python with Django or FastAPI

AI: Retrieval-Augmented Generation with LangChain

Frontend: React.js, Next.js, and TypeScript

Tools: Linux, Git, and Docker

Experience

Since 2024   **Senior Software Engineer**   Mintel / Full-time
Designing and leading the development of a backend service for an AI-powered question-and-answer system. This Retrieval-Augmented Generation service consolidated logic that previously lived in a frontend application and a thread-based Django server, to an asynchronous FastAPI server, significantly improving the system's load-handling capacity, decoupling the frontend from the backend, and facilitating the implementation of new features. In addition, addressing critical bottlenecks in data preparation and indexing, reducing processing time for ingesting our entire dataset from three to one hour, while improving the process robustness.

2021-2023   **Software Engineer**   Mintel / Full-time
Working full-stack on a web app that allows clients to search and read content written by Mintel's market research analysts. Taking active part in all team activities of an established Scrum team. Leading the development of a Single Page App for long-form content consumption written in React, including backend API development in Django. Advocating for high code quality by improving the team documentation, test suites, and alerting system (Sentry). Collaborating autonomously with adjacent teams, including contributing code to accelerate the development of features and bug fixes for the teams' dependencies.

2020-2021   **Full-stack Developer**   Queen Mary University of London / Part-time
Migrating the wordpress website of the Media and Arts Technology centre to Gatsby.js, hosted on GitHub pages, with continuous delivery by travis-ci.

2014-2016   **Python Back-end Developer**   XtremIO / Full-time
Working on the management server of an enterprise storage array. Developing automated maintenance procedures such as system upgrades, hardware replacements, restores, migrations, etc. Designing and implementing high-level and interactive protocols for client-server communication.

2014   **Python and Django tutor**   Freelance and with Udi Oron / Part-time
Teaching programmers in tech companies and privately. Developing teaching materials as well as teaching and assisting in class.

2014   **Full-stack Developer**   Shachar Web Solutions / Part-time
Developing an enterprise resource planning system with Django and jQuery.

2009-2013   **Math tutor**   Freelance and at HighQ retake college / Part-time
Teaching mathematics to 7th-12th grade students including preparation for matriculation exams (Israeli equivalent to A level) both privately and at a retake college. Teaching BSc students Linear Algebra, Calculus, Discrete Mathematics, Probability, Statistics and more at undergraduate level.

Education

2016-2021   **PhD in Computer Science**   Queen Mary University of London
Thesis title: Head movement in conversation
Supervisors: Prof. Patrick Healey and Dr. Julian Hough
This PhD explores the function and form of head movement and specifically head nods in free conversation. It utilizes virtual reality and motion capture data analysis to explore listeners non-verbal cues in multiparty social interactions. Overall, this thesis questions the coherence of our intuitive notion of a head nod and the adequacy of current approaches to describe the movements involved. It shows how some of the common theories that describe head movement and nods fail to explain most head movement in free conversation. In addition, it highlights subtleties in head movement and nods that are often overlooked.

Activities
- Designing and running software skills workshops: Intro to Code with Python/Processing, Data Analysis with Python and Pandas, and Version Control with Git.
- Teaching assistance for "Interactive Digital Multimedia Techniques", "Parallel Computing", and "Arts Application Programming" modules.
- Organising the Virtual Reality Special Interest Group.

2011-2015   **MA in Music Technology**   Bar-Ilan University
Exceptional distinction (97%)
Thesis title: An Audio-Only Augmented Reality System for Social Interaction
Supervisors: Prof. Eitan Avitsur and Dr. Nori Jacoby.
This thesis examines how an interactive environment might facilitate social interaction by developing and evaluating a mobile app for joint music consumption by a group of users in the same place and time. The app measure relative distances from a set of beacons via Bluetooth, and generates an immersive personalised musical environment that depends on the location of its participants. Two experiments tested the system in the context of a silent disco party, using the system's relative position signals as well as video tracking to evaluate the experience of users. The results showed that the system promoted openness and increased the social interaction between users.

Activities
- Organising the weekly seminars of the Music Technology programme.

2006-2011   **BSc in Mathematics and Music**   Haifa University
Activities
- Participating in the excellence programme of the department of mathematics.
- Taking part in establishing and maintaining the computer lab of the music department.
- Working as a recording and mixing engineer in the music department recording studio.