# Amartya Vadlamani

University College London — University of Texas, Austin — MEng Computer Science (graduating June 2020)

## Skills

- Python
  - Flask
  - Numpy
  - NLTK
  - Tensorflow
- Software Engineering
  - Java
  - C#
- Systems Programming
  - C/C++
  - Rust
  - OpenGL
- Database Management
  - Postgres
  - SQLite
  - Redis
- Linux
- Docker
- Responsive Web Design
  - Typescript
  - node.js
  - Vue.js
  - Webassembly
  - Headless CMS
- Application Development
  - OpenGL
  - Unity
  - Android

## Contact


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## Employment Authorisation

British National and US Green Card Holder

## Positions and Projects

### Software Engineer — Hauoli LLC (05/2019 – 09/2019)

Worked with their acoustic motion tracking frameworks, using them to build and maintain mobile applications.

Added a framework that allowed applications designers to consume gesture events as opposed to having to define their own gesture recognition per on a per application basis. This allowed application designers to respond to long strings of complicated gestures with one or two lines of code by subscribing to a modular event driven framework.

Demonstrated the effectiveness of the new system by extending native **Android** and **Unity** applications written in **Java** and **C#** that originally only performed one-dimensional tracking into applications that were capable gesture recognition in two dimensions, taking advantage of new capabilities in the low level tracking SDK.

Pitched and built a prototype Unity based rhythm game where the user would have to play guitar using the phone screen as a fretboard while using the tracking system detect strumming patterns. Also wrote editor extensions to automate the set up of new instruments and samples.

### Undergraduate Research — UT Austin (01/2019 – 05/2019)

Currently updating the computer graphics department's examples and projects to modern standards with aim to improve scalability and efficacy as well as to accommodate a new online masters program with thousands more students per semester.

As part of this process, I am porting the legacy OpenGL C++ code to a **WebGL**, **Webassembly** and **Typescript** based **Vue.js** application. I am also part of a team refactoring the code to improve testability and facilitate future sustainable development.

### Contract Software Developer — Capita (01/2018 – 05/2018)

Built a data analysis pipeline for Capita, a service based company that helps educational institutions streamline their processes, using **Python**, **PostgreSQL**, **Word2Vec**, **NLTK** and **SKLearn** to provide a summary of how parents and students interact with their schools and during trial stages processed 10 years of student fourm data in an hour on commodity hardware.

### Part-Time Data Scientist — Beekin (01/2018 – 03/2018)

Built a data processing pipeline that extracts information about housing from various sources and used it to populate a predictive model that computes rent from data applying information gathered from housing descriptions such as "has a garden" and "parking spot" to adjust it's predictions using **NLTK**, **numpy** and **scipy**.

### Summer Security Intern — BT Security (06/2017 – 09/2017)

Created an API using Flask that aggregates and normalises IP reputation information from different sources and formats.

I worked on the system's **PostgreSQL**, **Flask** and **Nginx** integrations to provide a **RESTful** API capable of storing and interactively querying hundreds of millions of records covering all of the IPv4 and some of the IPv6 address space with several kinds of datapoints from ownership to threat status. I also built a composable parser system to increase the system's extensibility and long term usability.