

Hoang C Vu

COMPUTER SCIENCE · 3RD YEAR UNDERGRADUATE STUDENT

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Education

Imperial College London

London, UK

M.ENG. IN COMPUTING (THIRD YEAR)

Oct 2019 - Exp. July 2023

- Operating System, Networks, Linear Algebra, Simulation & Modelling, Probability & Statistics, Graphs, Computer Vision & Graphics.
- Best First Year project (C): ARM assembler & emulator with Tetris extensions including Reinforcement Learning bots and motion sensors.
- First-class equivalent grades in the first 3 years including Dean's List in third year.

Skills

SOFTWARES & PROGRAMMING

- Languages: **Go, C, Haskell, Java, Python, Kotlin, Dart, JavaScript, TypeScript.**
- Web development frameworks: ReactJS, Vue3, FastAPI, Flask.
- Experience with Cloud technologies such as GCP and AWS.
- Familiarity with **CICD** tooling involving **GitHub Actions, GitLab, Terraform** and Datadog.

Work Experience

Improbable

London, UK

SOFTWARE ENGINEER INTERN

April 2022 - September 2022

- Maintained compute and cluster management services at a high standards to meet SLOs.
- Co-led the migration to use short-lived SSH certificates from a permanent SSH key in compute services to improve security.
- Developed and maintained internal IAM services to control internal access for both users and service accounts.
- Contributed to operations and observability by implementing metrics, alerts, monitors and dashboards in Datadog to meet the requirements specified in Technical Design Docs for the services.
- Worked closely with **Terraform, AWS, GitHub Actions & Golang** and some exposure to **Hashicorp Vault, OIDC vs OAuth** and **GCP**

Arabesque AI

London, UK

SOFTWARE ENGINEER INTERN

July 2020 - September 2020

- Focused on improving transparency and reproducibility of the engine through version controlling infrastructure and jobs as well as organising and storing logs appropriately.
- Contributed largely to the development of **Infrastructure as Code** with **Google Deployment Manager** and **GitHub Actions**.
- Led the integration of **OpenTelemetry** into the system to analyse bottlenecks and pitfalls as well as improving observability of the system.
- Leverage **serverless** technologies to reduce development times as well as reducing overall maintenance and operation costs.

Projects

Crime Rate Mobile Application

hoangvu01/not_here

KEEPS YOU SAFER WITH CRIME DATA ANALYSIS

Summer 2021

- Designed and built a platform-independent application using **Flutter** to digest and display crime-related data following **MVC** pattern.
- Learned about the process of developing and publishing a mobile application onto Google Play Store.

CS:GO Round Outcome Prediction

hoangvu01/csgo_prediction

REAL-TIME ROUND WINNER PREDICTOR

Summer 2021

- Built a Python web-scraper using **lxml** to scrape HLTV for historical data and augment collected data using **pandas** and **numpy**.
- Carried out experiments with different models using **sklearn** with highest accuracy over 60%

WACC Compiler

Imperial College London

SECOND YEAR GROUP PROJECT

Spring 2021

- Built a x86-64 & ARM11 cross-compiler and interpreter for a While-like language called WACC, written in **Kotlin** and **ANTLR4**.
- Extended with semantics checks and error propagation to provide users with meaningful error messages as well as basic optimisations such as **constant folding & propagation** and **simplified control flow analysis**.

ARM11 Emulator & Assembler + Tetris Plus Plus

TetrisPlusPlus

BEST FIRST YEAR PROJECT - IMPERIAL COLLEGE LONDON

April 2020 - June 2020

- Designed and built an **emulator** and 2-pass **assembler** that support a subset of the ARM11 instruction set.
- Built a Tetris game from scratch in **C** with **ncurses** library for CLI display shipped with Q-Learning and Genetic Algorithm powered bots.
- Integrated with motion sensors to allow pieces to be moved by means of user movements.