

James Grant

Bayswater, London, W2

james@jcgrant.com

www.jcgrant.com

(+44) 07716764153

Work

Research Engineer - Emotech

2017 - 2018

- Wrote a Visual Programming Language to build complex behaviour for a smart-home personal assistant / robot (called Olly).
- Wrote tens of thousands of lines of Go in a distributed system of over 20 microservices (both embedded and web-based), including the core services of the Olly robot.
- Wrote a Natural Language Generation Engine which augments sentences with contextual information.
- Gave lectures to my workmates on technologies I found interesting and useful (Haskell, TypeScript, React.js)
- Introduced Trello to my workmates and became Trello Master.
- Supervised Interns, and other Junior devs, with their work.

Computer Vision Research Engineer Intern - Imperial

2017

- Wrote real-time person tracker, which ran on an Android phone.

Financial Services Intern - Accenture

2016

- Wrote software for Accenture's Trading Platforms.
- Created visualisations of financial data.
- Gained a strong understanding of the securities market, and various trading and risk management strategies.
- Took a leadership role.

Vice President - Imperial College Mentality

2015 - 2017

- Mentality is a mental health awareness society which I have played a major role in setting up.
- Mentality is single handedly responsible for Imperial pledging over £300,000 to improve its mental health services.
- Coordinated events, gave presentations, recruited members.
- Responsible for organising the society, and creating and maintaining the website.

IT Officer - Imperial College Dance Club

2014 - 2017

- Responsibilities included creating and maintaining the website.
- Boosted committee productivity by introducing Slack and Trello.

Web Developer Intern - Twofour

2011 & 2012

- Built a robust social network complete with profiles, a newsfeed, friendships, and image galleries.

Education

Imperial College London

2013 - 2017

MEng in Computing and Artificial Intelligence.

Generative Procedural-Parametric Architectural Design

2017

- Final year thesis on parallel-distributed genetic algorithms.

Autonomous Drone

2017

- Wrote a Kalman filter, and a PID controller, to allow a drone to fly a programmed route autonomously.

CoIDE

2016

- A real-time, collaborative, IDE. Supports multiple users writing and running Python programs, and live editing of web-apps.

Doodlr

2015

- A real-time, collaborative, paint application. Multiple users can paint together using various tools and styles.

PintOS

2015

- Implemented an Operating System, in C.

WACC Compiler

2014

- Compiles a C-like language, 'WACC', to ARM Assembly.

Enigma Machine

2014

- Implemented an Enigma machine in C++.

Raspberry Pi Project

2014

- Implemented an ARM emulator, and assembler, in C.

Skills

Programming Languages

- **Proficient** - Python, Go, C++, C, Java, C#, JavaScript+TypeScript, Haskell, Bash, SQL, Ruby, HTML+CSS.
- **Intermediate** - TensorFlow, PHP, MATLAB, R, Lisp+Scheme.
- **Basic** - Rust, Elm, Erlang, Elixir, OpenGL.

Computing Tools and Utilities

- Linux, OS X, Windows, Vim, Git, Web Technologies, Various TDD Libraries, Virtual Machines + Docker, Spreadsheets, Photoshop.

Personal Projects

I have over 100 personal projects, hosted at github.com/JCGrant.

glambda

2018

- A lambda calculus interpreter, written in Go.

Pynk + Twixir / Twitch Paints

2018

- Live streamed canvas, on which Twitch users could paint via chat.

Kilo

2017

- A command line text editor in ~1000 lines of C. It supports searching and language syntax highlighting.

JLang

2017

- A toy Python-esque language, implemented in Haskell.

Blox

2016

- A Minecraft Server wrapper which adds extra functionality to the game through plugins.

Multiplayer Asteroids

2016

- A real-time multiplayer game where users can fly around in an infinite 2d universe, and shoot one another.

Stock Market Simulation

2015

- Wrote multiple bots, each producing and wanting specific items. They trade with one another to achieve their needs.
- Prices of items increase and decrease depending on the laws of supply and demand.

Digit Recognition Neural Network (MNIST)

2015

- A deep neural network, from first principles, to recognise handwritten digits; achieving an accuracy of 99.6%.

Dungeons & Dragons Character Builder

2012

- Wrote a parser to extract information from a PDF.
- Created a web-app which displays said information and allows users to create, and update, multiple characters.

National Cipher Challenge toolset

2012

- Wrote programs to aid in deciphering various encoded texts.

Awards and Achievements

1st place, G-Research's Coding Competition

2014

- Wrote a bot which traded instruments on a virtual market.

1st place, Computing Topics Course

2014

- My social network analysis presentation was voted best in the year.

Personal

- Hackathons, Project Euler, and other programming challenges.
- Game development.
- Public speaking, Debating.
- Salsa dancing.
- Guitar, Piano, Singing.