

James Grant

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Education

- Imperial College London** 2013 - 2017
MEng in Computing and Artificial Intelligence.
- **CoIDE** 2016
 - github.com/JCGrant/CoIDE
 - A real-time, collaborative, development environment.
 - Put myself forward as project leader.
 - Wrote the client-server communication API, using websockets.
 - Designed and wrote the user interface.
 - Responsible for deploying the application, using Dokku.
 - **DoodlrJS** 2015
 - github.com/JCGrant/Doodlr
 - A web-based, collaborative, drawing application.
 - Built a variety of painting tools which can be used to draw on canvases, together, in real-time.
 - Wrote the API for application-database communication.
 - Wrote the event handlers for the user interfaces.
 - **PintOS** 2015
 - Implemented various Operating System features such as process sleeping, thread priority donation, a BSD-scheduler, user-space programs and virtual memory.
 - **WACC Compiler** 2014
 - Compiles a C-like language called WACC to ARM Assembly.
 - Supports type derivation, external C function calls, modules, floats, loop unrolling, function inlining and C-like structs.
 - **Enigma Machine** 2014
 - Implemented a fully functioning Enigma machine in C++.
 - **Raspberry Pi Project** 2014
 - Tasked with writing an ARM emulator and an assembler.
 - Wrote an ARM program, debugged it with the emulator, compiled it with the assembler, then ran it on a Raspberry Pi.

Kingsbridge Community College 2007 - 2013
A Level - Maths (A*), Further Maths (A), Chemistry (A)
GCSE - 11 GCSE's (A* - B)

Work Experience

- **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.
- **Imperial College Mentality Vice President** 2015 - Present
 - Mentality is a mental health awareness society which I have played a major role in helping set up.
 - Organised events, gave presentations, recruited members.
 - Responsible for creating and maintaining the website.
- **Imperial College Dance IT Officer** 2014 - Present
 - Responsibilities include creating and maintaining the website and helping plan events.
- **Twofour** 2012
 - Shadowed staff in the digital department at the TV Film and Video Production Company, Twofour, for a few weeks.
 - Observed their work on the backend of the company website.
 - Completed a programming challenge, in a given amount of time, which they give to potential applicants.

Personal Projects

- **Multiplayer Asteroids** 2016
 - github.com/JCGrant/multiplayer-asteroids
 - Creating 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** 2015
 - Wrote a deep neural network to recognise handwritten digits.
 - It achieves an accuracy of ~99.6%.
- **Social Network** 2013
 - Wrote a robust social network complete with profiles, a newsfeed, friendships, and image galleries.
- **Dungeons & Dragons Character Builder** 2012
 - Wrote a parser to extract information from a PDF.
 - Created a web-app which displays the information and allows users to create, and update, multiple characters.
- **Code cracking tools** 2012
 - Wrote tools to aid my team in cracking various codes given by the University of Southampton National Cipher Challenge.

Awards and Achievements

- **1st place, G-Research's Coding Competition** 2014
 - Wrote a bot which traded instruments on a virtual market with several other bots, each trying to making the most money.
- **Computing Topics** 2014
 - My social network analysis presentation was voted best in the year by my peers.

Skills

- **Computing Languages**
 - *Proficient* - Python, Java, C# Javascript, C++, Java, Ruby, C, HTML, CSS, Lisps.
 - *Intermediate* - Haskell, PHP, SQL.
 - *Basic* - Go, Rust, Elm.
- **Computing Tools and Utilities**
 - Linux (Arch, Debian, CentOS), OS X, Windows, Vim, Git, Dokku, Excel, Photoshop.

Personal

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

References

Available on request.