

# James Grant

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## Education

<b>Imperial College London</b>	2013 - 2017
MEng in Computing and Artificial Intelligence.	
<b>CoIDE</b>	2016
<ul style="list-style-type: none"><li>– <a href="https://github.com/JCGrant/CoIDE">github.com/JCGrant/CoIDE</a></li><li>– A real-time, collaborative, development environment.</li><li>– Put myself forward as project leader.</li><li>– Wrote most of the backend, the websocket communication layer, and designed the user interface.</li><li>– Responsible for deploying the application, using Dokku.</li></ul>	
<b>DoodlrJS</b>	2015
<ul style="list-style-type: none"><li>– <a href="https://github.com/JCGrant/Doodlr">github.com/JCGrant/Doodlr</a></li><li>– A real-time, web-based, collaborative, drawing application.</li><li>– Built a variety of painting tools.</li><li>– Wrote the application-database communication layer.</li><li>– Wrote the event handlers for the user interfaces.</li></ul>	
<b>PintOS</b>	2015
<ul style="list-style-type: none"><li>– Implemented various Operating System features such as process sleeping, thread priority donation, a BSD-scheduler, user-space programs and virtual memory.</li></ul>	
<b>WACC Compiler</b>	2014
<ul style="list-style-type: none"><li>– Compiles a C-like language called WACC to ARM Assembly.</li><li>– Supports type derivation, external C function calls, modules, floats, loop unrolling, function inlining, and C-like structs.</li></ul>	
<b>Enigma Machine</b>	2014
<ul style="list-style-type: none"><li>– Implemented a fully functioning Enigma machine in C++.</li></ul>	
<b>Raspberry Pi Project</b>	2014
<ul style="list-style-type: none"><li>– Tasked with writing an ARM emulator and an assembler.</li><li>– Wrote an ARM program, debugged it with the emulator, compiled it with the assembler, then ran it on a Raspberry Pi.</li></ul>	
<b>Kingsbridge Community College</b>	2007 - 2013
<ul style="list-style-type: none"><li>– A Level - Maths (A*), Further Maths (A), Chemistry (A)</li><li>– GCSE - 11 GCSEs (A* - B)</li></ul>	

## Work

<b>Financial Services Intern - Accenture</b>	2016
<ul style="list-style-type: none"><li>– Wrote software for Accentures Trading Platforms.</li><li>– Created visualisations of financial data.</li><li>– Gained a strong understanding of the securities market, and various trading and risk management strategies.</li><li>– Took a leadership role.</li></ul>	
<b>Imperial College Mentality Vice President</b>	2015 - 2017
<ul style="list-style-type: none"><li>– Mentality is a mental health awareness society which I have played a major role in setting up.</li><li>– Mentality is single handedly responsible for Imperial pledging over 300,000 to improve its mental health services.</li><li>– Coordinated events, gave presentations, recruited members.</li><li>– Responsible for organising the society, and creating and maintaining the website.</li></ul>	
<b>Imperial College Dance IT Officer</b>	2014 - 2017
<ul style="list-style-type: none"><li>– Responsibilities include creating and maintaining the website.</li></ul>	
<b>Twofour</b>	2011 & 2012
<ul style="list-style-type: none"><li>– Shadowed staff and observed their work.</li><li>– Learnt Ruby on Rails and C#.</li><li>– Completed various programming challenges.</li></ul>	

## Personal Projects

<b>Blox</b>	2016 - Present
<ul style="list-style-type: none"><li>– <a href="https://github.com/JCGrant/Blox">github.com/JCGrant/Blox</a></li><li>– A Minecraft Server wrapper which adds extra functionality to the game through plugins.</li></ul>	
<b>Multiplayer Asteroids</b>	2016 - Present
<ul style="list-style-type: none"><li>– <a href="https://github.com/JCGrant/multiplayer-asteroids">github.com/JCGrant/multiplayer-asteroids</a></li><li>– A real-time multiplayer game where users can fly around in an infinite 2d universe, and shoot one another.</li></ul>	
<b>Stock Market Simulation</b>	2015
<ul style="list-style-type: none"><li>– Wrote multiple bots, each producing and wanting specific items. They trade with one another to achieve their needs.</li><li>– Prices of items increase and decrease depending on the laws of supply and demand.</li></ul>	
<b>Digit Recognition Neural Network</b>	2015
<ul style="list-style-type: none"><li>– Wrote a deep neural network to recognise handwritten digits.</li><li>– It achieves an accuracy of 99.6%.</li></ul>	
<b>Social Network</b>	2013
<ul style="list-style-type: none"><li>– Wrote a robust social network complete with profiles, a newsfeed, friendships, and image galleries.</li></ul>	
<b>Dungeons &amp; Dragons Character Builder</b>	2012
<ul style="list-style-type: none"><li>– Wrote a parser to extract information from a PDF.</li><li>– Created a web-app which displays the information and allows users to create, and update, multiple characters.</li></ul>	
<b>Code cracking tools</b>	2012
<ul style="list-style-type: none"><li>– Wrote tools to help crack codes given by the University of Southampton National Cipher Challenge.</li></ul>	

## Awards and Achievements

<b>1st place, G-Research's Coding Competition</b>	2014
<ul style="list-style-type: none"><li>– Wrote a bot which traded instruments on a virtual market with several other bots, each trying to making the most money.</li></ul>	
<b>Computing Topics</b>	2014
<ul style="list-style-type: none"><li>– My social network analysis presentation was voted best in the year by my peers.</li></ul>	

## Skills

## **Programming Languages**

- Proficient - Python, C++, C, Java, C#, Javascript, Ruby, MATLAB, HTML, CSS, Lisps.
- Intermediate - Haskell, PHP, SQL, R.
- Basic - Go, Rust, Elm.

## **Computing Tools and Utilities**

- Linux, OS X, Windows, Vim, Git, Virtual Machines, Spreadsheets, Photoshop.

## Personal

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