

# James Grant

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## Education

- Imperial College London** 2013 - 2017
  - MEng in Computing and Artificial Intelligence.
  - **CoIDE** 2016
    - [github.com/JCGrant/CoIDE](https://github.com/JCGrant/CoIDE)
    - A real-time, collaborative, development environment.
    - Put myself forward as project leader.
    - Wrote most of the backend, the websocket communication layer, and designed the user interface.
    - Responsible for deploying the application, using Dokku.
  - **DoodlrJS** 2015
    - [github.com/JCGrant/Doodlr](https://github.com/JCGrant/Doodlr)
    - A real-time, web-based, collaborative, drawing application.
    - Built a variety of painting tools.
    - Wrote the application-database communication layer.
    - 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 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.
- **Imperial College Dance IT Officer** 2014 - Present
  - Responsibilities include creating and maintaining the website.
- **TwoFour** 2011 & 2012
  - Shadowed staff and observed their work.
  - Learnt Ruby on Rails and C#.
  - Completed various programming challenges.

## Personal Projects

- **Blox** 2016 - Present
  - [github.com/JCGrant/Blox](https://github.com/JCGrant/Blox)
  - A Minecraft Server wrapper which adds extra functionality to the game through plugins.
- **Multiplayer Asteroids** 2016
  - [github.com/JCGrant/multiplayer-asteroids](https://github.com/JCGrant/multiplayer-asteroids)
  - 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 help crack 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, 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.

## References

Available on request.