Zhenghong **Lieu**

+44 742 986 3194 | +65 8288 2107
lieuzhenghong@gmail.com
lieuzhenghong

Education

University of Oxford, Merton College
2017 – 2020 (est.)

Philosophy, Politics and Economics (PPE) BA

- Final year modules: Thesis in Quantitative Politics, Behavioural and Experimental Economics, Game Theory
- Quantitative Political Essay Prize: for best essay of my Oxford politics cohort (~300 students), *Does Consensus Democracy Improve Economic Outcomes?*
- Sam McNaughton Prize: for best performance in Philosophy in the PPE first-year exams
- Fowler Prize(s): for First-class performance in termly exams, awarded every term so far

---

MOOCs and Coursera Specialisations
2017 – present

- Algorithms and Data Structures (taught by Tim Roughgarden; based on Stanford's undergraduate algorithms course CS161)
- Mathematics for Machine Learning (linear algebra, multivariate calculus, PCA)
- From NAND to Tetris I & II (computer architecture: building an OS from a logic gate)
- Machine Learning (taught by Andrew Ng; rated best MOOC of all time)
- Competitive Programmer's Core Skills (algorithms practice, edge cases)
- Databases (relational algebra, SQL, relational design theory)

Experience

Languages

- Python
- JavaScript
- R
- SQL
- C/C++17

Technologies

- Node.js
- Electron
- React
- Hyperledger
- Keras

Data Scientist (Intern)
Jun 2019 – present

Inzura AI

- Increased firm revenue by building SMS pipeline that increased active app users:
  - *Automated pipeline to send reminder SMSes automatically and track SMS clicks*
  - *Used Bayesian statistics (Thompson sampling) to converge onto the optimal SMS message and maximise firm profit*
- Decreasing firm's cost by building deep learning model to supercede existing rule-based system:
  - *100x faster inference: reducing processing time from 4-7 seconds to less to 50ms (0.050s)*
  - *Opens up the ability to give drivers real-time feedback, something previously impossible*
- Performing Big Data analysis on >5 million trips (6 billion data points):
  - *Building distributed infrastructure to enable hitherto-impossible large-scale queries: traffic flow analysis, driver familiarity*
  - *Configuring Apache Spark on Raspberry Pi cluster*

`Tech stack: Python, SQL, Scala, Keras, Apache Spark`

Blockchain Developer (Intern)
Jun 2018 – Aug 2018

Infocomm Media Development Authority of Singapore (IMDA)

- Created physical model that demystifies the blockchain, helping IMDA's senior management persuade industry leaders to adopt blockchain in their companies
- Developed a fully-automated blockchain demonstrator for supply chain management:
  - *Real-time blockchain visualisation*
  - *IoT sensor integration to update asset location data (Hyperledger, Node.js)*
  - *Tamper-proof QR-code based asset tracking (Blockchain REST API)*

`Tech stack: Hyperledger Fabric/Composer, Node.js, JavaScript`

Software Engineer
Jun 2017 – Aug 2017

Imcomp International

- Greatly increased firm efficiency by developing bespoke building inspection software:
  - *85% less time taken per inspection*
  - *75% less time taken to generate report*
  - *300 engineer-hours saved per month (~100 inspections/month)*

`Tech stack: Electron, Vue.js, JavaScript`

Venture Capital Analyst (Intern)
Jan 2017 – May 2017

iGlobe Partners

- Co-wrote 2 investment papers recommending investment in fintech/big data startups
- Senior management accepted both recommendations and made Stage B investments
- Developed more powerful version of Microsoft Mail Merge that achieved:
  - *90% fewer human errors in sending mass mailers*

- *50% time saved in sending mass mailers*

`Tech stack: Python`

Conscripted Soldier

Feb 2015 – Dec 2016

Singapore Armed Forces (SAF), HQ Army Medical Service

- Developed the Army's first item tracker and automatic SMS reminder service:
  - *Won second prize in the Army Annual Innovation Competition*
  - *Won Best Soldier of the Month out of ~3000 soldiers*

`Tech stack: React, Node.js, Express.js, auth.io, Heroku, MongoDB, JavaScript`

Service

Supervisor and Tutor

May 2016 – Sep 2017

Ulu Pandan Stars

- Led the team that won 3rd (amongst ~100 participating teams) in national hackathon CodeXtreme: "digital wallet" implementation on the micro:bit embedded system
- Taught underprivileged children Scratch and Python programming