

Additional Information

Zhenghong Lieu

Table of contents

1. Resume
2. Abstract of coauthored paper with Professors Jonathan Rodden and Nicholas Eubank
3. Abstract of final year politics thesis
4. Tutors' comments
5. Selected certificates of completion of MOOCs:
 - Algorithms
 - Databases
 - SQL
 - Relational Algebra
 - Relational Design Theory
 - Computer architecture (NAND 2 Tetris I & II)
 - Linear Algebra
 - Multivariate Calculus
 - Machine Learning
 - Big Data Analysis in Scala and Spark
 - Functional Programming in Scala
6. Short snippet of Mathematical Analysis problem set
7. Short snippet of software project I developed

Zhenghong Lieu

(lieuzhenghong@gmail.com)

Education

- Oct 2017**
– present **University of Oxford**
BA in Philosophy, Politics and Economics (PPE)
- Jun 2017**
– present **Massive Open Online Courses (MOOCs) completed**
Computer Science
- Algorithms and Data Structures (Stanford)
 - Databases (Stanford)
 - Machine Learning (Stanford)
 - From NAND to Tetris I & II (computer architecture) (IDC Herzilya)
 - Competitive Programmer's Core Skills (SPSU)
- Data Science
- Functional Programming Principles in Scala (EPFL)
 - Parallel Programming in Scala (EPFL)
 - Big Data Analysis in Scala and Spark (EPFL)
- Mathematics
- Linear Algebra (Imperial College London)
 - Multivariate Calculus (Imperial College London)

Experience

- Jun 2019**
– Sep 2019 **Data Scientist (Intern)**
Inzura AI
Increased monthly active users by > 20% by building a Bayesian SMS sender in Python and SQL, meeting a KPI which secured an important client contract
Built deep learning model with Keras that reduces trip processing time from 7s to 0.05s, which made possible a new revenue vertical for the company
Deployed distributed Apache Spark infrastructure and performed Big Data analysis with Scala on ~85 million data points used to assign users more accurate risk ratings
- Jun 2018**
– Aug 2019 **Blockchain Developer (Intern)**
Infocomm Media Development Authority of Singapore (IMDA)
Wrote a research paper on blockchain interop protocols and presented it to senior management
Created a fully-automated blockchain demonstration of supply chain management:
- Real-time blockchain visualisation using JavaScript and Canvas
 - IoT sensor integration to update asset location data on Hyperledger blockchain
 - QR-code based asset tracking with Node.js
- Jun 2017**
– Aug 2017 **Software Engineer**
Imcomp International
Greatly increased firm efficiency (75% less time taken to generate reports, 300 engineer hours saved per month) by developing bespoke building inspection software (Electron, Vue.js, JavaScript)

| | |
|--------------------------------------|--|
| Jan 2017 – May 2017 | Venture Capital Analyst (Intern) <i>iGlobe Partners</i> Co-wrote 2 papers recommending investment; senior management accepted both recommendations and made Stage B investments Developed more powerful version of Microsoft Mail Merge in Python that automates away 90% of human errors and saves 50% time when sending mass mailers |
| May 2016 – Sep 2017 | Python Programming Tutor (Volunteer) <i>Ulu Pandan Stars</i> Taught a team of underprivileged children Python and led them to win 3rd (amongst ~100 participating teams) in national hackathon CodeXtreme |
| Feb 2015 – Dec 2016 | Soldier (Conscript) <i>Singapore Armed Forces (SAF), HQ Army Medical Service</i> Developed the Army's first item tracker and SMS reminder service with React and Node.js: <ul style="list-style-type: none"> • Won second prize in the Army Annual Innovation Competition • Won Best Soldier of the Month out of ~3000 soldiers |

Working Papers

| | |
|-------------|--|
| 2019 | "Accounting for Travel Times in Estimating Political Dislocation" <i>with Nicholas Eubank and Jonathan Rodden</i> |
| 2019 | "Using human geography to build a more meaningful compactness measure for automated districting algorithms" |
| 2019 | "Can freeform communication increase the rate of Pareto-efficient outcomes in repeated games?" |

Honors and Fellowships

| | |
|-------------------------------------|--|
| Oct 2019 | Postmaster <i>Major college scholarship awarded for sustained academic excellence</i> |
| Aug 2019 | Raff Prize <i>Awarded for best second-year Economics performance in my college</i> |
| Oct 2018 | Exhibitioner <i>Minor college scholarship awarded for good performance in the first year</i> |
| Aug 2018 | Sam McNaughton Prize <i>Awarded for top score in Philosophy in the PPE first-year exams</i> |
| June 2018 | Quantitative Political Essay Prize <i>Awarded to the best quantitative essay of my Oxford politics cohort (~300 students)</i> |
| Dec 2017 – present | Fowler Prize(s) <i>Awarded for First-class performance in termly exams, awarded 7/7 terms</i> |
| Sep 2017 | National Infocomm Scholarship <i>Full-ride undergraduate scholarship awarded to promising Singaporean students by the Infocomm Media and Development Authority (IMDA), a Singaporean statutory board. Awarded on the basis of academic excellence, demonstrated interest in tech, and a will to serve the nation.</i> |