

Additional Information

Zhenghong Lieu

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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

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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>