# Zhang Naifu

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## EDUCATION

**Tsinghua University** | Aug 2018 – Jun 2020 | Beijing, China
*MSc Advanced Computing*

- Courses: Machine Learning; Deep Learning; Control Theory; Algorithms; Computer Organisation; OS; Distributed Systems; Embedded Systems; Natural Language Processing; Multimedia Technologies; Discrete Maths; Combinatorics; Stochastic Processes
- Machine learning project that used Partial CNN to decensor pixelation mask on human face images
- Implemented MLP, CNN, RNN and word2vec without machine learning libraries
- Implemented sharded distributed system based on raft protocol
- Teaching Assistant for Combinatorial Mathematics Spring 2020
- Beijing Scholarship 2019, awarded to 3 out of ~30 students

**University of Cambridge, St Edmund's College** | Oct 2013 – Jun 2016 | Cambridge, UK
*BA (Hons) Economics*

- Elective courses: Econometrics; Mathematics and Statistics; Economic Theory and Analysis
- Final year dissertation applies the theory of Markov-switching GARCH model on USDCNH option volatility
- St Edmund's College Prize, 2014 & 2015

**Hwa Chong Institution** | Jan 2005 – Dec 2010 | Singapore

- 7 A Level Distinctions; 2310 in SAT I; 11 GCSE Distinctions

## RESEARCH

**Tsinghua University** | Jul 2019 – Aug 2020 | Beijing, China
*MSc Student*

- Undertaking research in efficient robotic control and learning methods based on Gaussian processes and continuous reinforcement learning, to be submitted to L4DC 2021
- Researched on question-answering based on UR5 robotic arm through imitation learning: '*MQA: Answering the Question via Robotic Manipulation*' coauthored with Assoc. Prof. Liu Huaping (Tsinghua University) & Prof. Sun Fuchun (Tsinghua University)

**Nanyang Technological University** | Jun 2016 – Jul 2016 | Singapore
*Research Assistant*

- Used MLP neural network to predict run-time of large number of jobs on commercial VMs (Azure, EC2 and GCE)
- Implemented 0/1 Knapsack algorithm to optimize run-time under budget constraint

**Economics Faculty, University of Cambridge** | Mar 2015 – Apr 2015 | Cambridge, UK
*Research Assistant*

- Assisted Assoc. Prof. Jane Fruehwirth (University of North Carolina) and Dr. Sriya Iyer (University of Cambridge) in the paper '*Religion and Depression in Adolescence*', published on IZA & SSRN

## PROFESSIONAL EXPERIENCE

**Barclays Investment Bank** | Aug 2016 – Jul 2018 | London, UK
*Macro Structuring*

- Developed python and padla (in-house language) scripts to price, risk and backtest exotic, path-dependent option strategies
- Applied quantitative methods and conducted statistical and econometrical analysis to address business needs of clients, e.g. making inference and uncovering relationship between CMS spread and FX forward points
- Structured derivative strategies in the FX and Fixed Income asset classes as investment or hedging solutions for corporates, fintech, pension funds and asset managers

**Singapore Armed Forces** | Feb 2011 – Dec 2012 | Singapore
*Medic*

## SKILLS AND INTERESTS

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|---|---|
| **Languages** | Fluent in English and Mandarin; Comfortable in python & C |
| **Sports** | Active marathoner; St Edmund's College rower, Blades in Lent Bumps 2016 |
| **Music** | Cello |
| **Subscriptions** | 3Blue1Brown, Computerphile, TwoSetViolin, TechLead, Quanta magazine |