

# Michael Tsang

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## Work Experience

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### Thought Machine

London

BACK END ENGINEER

Sep 2020 - Present

- Developed and maintained software for parsing, verifying and processing **ISO8583** messages as a key member of the Card Payments team.
- Integrated into the core banking department for a temporary role, enabling the timely completion of critical projects under tight deadlines.
- Collaborated effectively in a cross-functional team to introduce new linters, enforce ownership of common libraries, and contribute to style guides, resulting in improved code quality and adherence to **Go** best practices company-wide.
- Led efforts to introduce **Redis** for caching, working closely with infrastructure teams to run exhaustive load tests, significantly reducing latency on a path crucial for payment routing, while meeting strict requirements.

### Jetstack

London

SOFTWARE ENGINEER INTERN

Apr 2019 - Sep 2019

- Upgraded the **Elm** front-end of a Kubernetes training web application, resulting in improved user experience and increased efficiency.
- Contributed significantly to the development of cert-manager, a widely used **open-source Kubernetes** add-on for handling SSL/TLS certificates, becoming the fifth top contributor at the time.
- Designed and built a on-demand provisioning platform for lightweight **Kubernetes** environments on **Google Cloud**, reducing infrastructure costs by removing the need for a costly external integration.

### Ocado Technology

Hatfield

TECHNOLOGY INTERN

Jul 2018 - Sep 2018

- Integrated multiple sensor and computer vision libraries in **C++** to develop a real-time movement tracking library.
- Developed a multi-party video conferencing application using **Javascript**, enabling real-time movement transmission to remote **Arduino** controllers for manipulating a robotic body, significantly enhancing remote collaboration capabilities.

## Education

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### Imperial College London

London

MENG IN COMPUTING W/ ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING (FIRST CLASS)

Oct 2016 - Jun 2020

- Thesis: Semi-Automatic Parallelisation of Timed Functional programs - utilising user-supplied time complexity annotations to automatically parallelise **Haskell** programs, leading to substantial runtime decreases for select programs.
- Modules include: 83% Natural Language Processing, 83% Concurrent Processes, 81% Distributed Algorithms.
- Placed on Engineering **Dean's List** for top 10% performance, and winner of **Morgan Stanley Prize** for top 12 first year students.

## Projects

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### Aspect Based Sentiment Analysis

<https://git.io/Je0bK>

THIRD YEAR GROUP PROJECT

Oct 2018 - Dec 2018

- Collaborated with Goldman Sachs to develop a **Natural Language Processing (NLP) Python** solution to streamline financial analysis by processing news articles, extracting sentiment about companies of interest and relevant quotations.
- Demonstrated the real-world practicality of the solution in aiding investment decisions by creating a demo application with a **RESTful Python** backend, and a **React** frontend.

### Lembas

Available on Request

WEBAPPS GROUP PROJECT

Jun 2018

- Developed a full stack **Javascript** web application for the creation and sharing of meal plans, addressing the issue of unbalanced diets through facilitating a platform between nutritionists and everyday individuals.
- Implemented **human-centered-design** techniques, such as user stories and micro-iterations from demoing and surveying potential users, ensuring all committed changes improved the overall the user experience.

## Extracurricular Activity

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### Imperial College London (Department of Computing)

London

PERSONAL PROGRAMMING TUTOR

Oct 2018 - Mar 2019

- Ran a weekly tutorial with a group of first-year students to supplement their **Haskell**, and **Java** learning: expanding their knowledge of algorithms, and reinforcing good software design practices.
- Assessed and gave constructive feedback on weekly assignments to nurture their growth.

### Robogals London

London

TRAINING MANAGER

Apr 2017 - Apr 2018

- Taught schoolchildren the fundamentals of programming through hands-on workshops, cultivating their interest in technology.
- Led training days to onboard new volunteers, contributing to the growth of the society.
- Spearheaded an initiative to develop advanced workshops, attracting more enthusiasm from older schoolchildren, and increasing the range of skills taught by the society.