

## EDUCATION

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ETH ZURICH

Zurich, Switzerland

**Computer Science MSc**

July 2020

- *Focus track*: Theoretical Computer Science
- *Masters Thesis*: Studied the statistical-computational gap of sparse tensor PCA, and designed distinguishing & recovery algorithms

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

**Computer Science and Mathematics Double Degree Programme**

May 2016

- *Computer Science*: Completed focus areas in “Algorithms & Theory” and “Artificial Intelligence”
- *Mathematics*: Majored in Applied Mathematics with additional Mathematics courses such as graduate Recursion Theory
- *Honours*: First Class Honours in Computer Science, First Class Honours in Applied Mathematics, and Dean’s List (top 5%)
- *Computer Science Thesis*: Designed methods to maintain dynamic maximal independent sets  
Nominated for NUS Outstanding Undergraduate Researcher Prize (an annual, university-wide competition)
- *Mathematics Thesis*: Studied notions of Kolmogorov complexity of binary strings in automata theory and CFGs
- *University Scholars Programme*: A selective (180 students) multidisciplinary academic programme for undergraduates  
Awarded President’s Honour Roll which recognizes outstanding academic accomplishments and student-led co-curricular activities

## PUBLICATIONS

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- Davin Choo, Christoph Grunau, Julian Portmann, and Václav Rozhoň. k-means++: few more steps yield constant approximation. International Conference on Machine Learning (ICML), 2020.
- Davin Choo, Mate Soos, Kian Ming A Chai, and Kuldeep S Meel. Bosphorus: Bridging ANF and CNF Solvers. Design, Automation & Test in Europe Conference & Exhibition (DATE), pages 468–473. IEEE, 2019.
- Jing Lim, Joshua Wong, Minn Xuan Wong, Lee Han Eric Tan, Hai Leong Chieu, Davin Choo, and Neng Kai Nigel Neo. Chemical Structure Elucidation from Mass Spectrometry by Matching Substructures. Machine Learning for Molecules and Materials NeurIPS Workshop, 2018.

## WORK EXPERIENCE

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DSO NATIONAL LABORATORIES

Singapore

**Research Scientist — Information Exploitation Lab (IEL)**

Jun 2016 – Sep 2018

- Applied A.I. techniques to security related problems in military contexts, including cryptanalysis, SAT solving and reverse engineering

DSO NATIONAL LABORATORIES

Singapore

**Research Intern — Cognitive Fusion Lab (CFL)**

May 2013 – Jul 2013

- Worked on a research project to improve the performance of speech-to-text recognition for military applications

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

**Research Assistant — SeSaMe (Augmented Reality Library)**

Aug 2012 – Dec 2012

- Designed a framework and protocol to interface mobile devices with the server and communicated it to other engineers
- Developed an algorithm that identifies spatial coordinates and orientation of user within a building using visual landmarks

DEFENCE SCIENCE & TECHNOLOGY AGENCY (DSTA)

Singapore

**Research Intern — C4I development (PC8)**

Feb 2011 – May 2011

- Worked with other engineers to harness and exploit science and technology to meet the defence needs of Singapore
- Designed an in-house Unmanned Aerial Vehicle (UAV) algorithm that maps image points to actual geolocation coordinates

## TEACHING AND SERVICE

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NATIONAL UNIVERSITY OF SINGAPORE

Singapore

**Teaching Assistant — CS1101S, CS1231, CS2020, CS3230, CS4344, GET1031**

Aug 2012 – May 2016

- Collaborated with over 8 faculty members on refining teaching materials and pedagogies to suit student needs
- Led discussion groups for a total of 86 students across 6 different courses on topics including programming methodology, computational thinking, data structures and algorithms, design and analysis of algorithms, and discrete structures
- Averaged a feedback score of 4.7/5 across all tutored courses (faculty average: 4.16/5) with 15 nominations for Best Teaching

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

**University Scholars Programme (USP) Mentor**

Aug 2012 – May 2016

- Set up a cohesive network for Computer Science students in the USP to help juniors navigate through a variety of academic concerns

TEMASEK JUNIOR COLLEGE

Singapore

**Course Instructor**

Jan 2014 – May 2014

- Initiated a student outreach programme to encourage young students to explore the field of Computer Science