

# JEREMY LIAN

THEORETICAL PHYSICIST, enthusiastic about scientific computation and numerical methods

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## EDUCATION

BACHELOR OF SCIENCE (PHYSICS), 1<sup>st</sup> Class

Nanyang Technological University

AUG 2016 – JUL 2020

Singapore

Student Exchange (Physics)

Uppsala Universitet

SEP 2018 – JAN 2019

Sweden

## CO-CURRICULAR ACTIVITIES & COMMUNITY SERVICES

Vice-President

NTU RIDERS CLUB

AUG 2017 – AUG 2019

NTU, Singapore

- Organised "Charity Wash 2018" for The Singapore Association for the Deaf, managing close to 60 volunteers and raising over \$3000 in donations.
- Conducted "NTU Advanced Safety Riding Course 2018" with Singapore Safety Driving Centre – a day-course targeted at over 60 student motorcyclists to impart defensive riding techniques in effort to reduce cases of student motorcyclist accidents on public roads.

Business Manager

School of Physical & Mathematical Science (SPMS) Club

AUG 2017 – AUG 2018

NTU, Singapore

- Engaged more than 30 companies (eg. BreadTalk Group, Dairy Farm International Holdings etc.) and financial institutions (eg. CIMB Bank, Great Eastern SG etc.) for sponsorship agreements; led marketing team of 10 in drawing up brand publicity outreach to over 2500 SPMS students.

## AWARDS & ACHIEVEMENTS

NTU President Research Scholar



Undergraduate Research Experience on Campus (URECA)

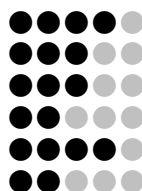
Distinction



Research on "Computational modelling of a Curie Engine".

## SKILLS & LANGUAGES

Scientific programming (eg. optimisation)  
C++, Python, MATLAB, COMSOL, SQL, CAD  
Machine Learning (eg. Tensorflow, Keras)  
CISCO Network Routing and Switching  
MS Office Suite,  $\text{\LaTeX}$ , Linux Bash  
Bahasa Indonesia, 中文



## PROJECTS

DSTA TIL-Brainhack 2019

- Constructed machine learning program for image classification using a Convolutional Neural Network with 15 image classes ranging from military to yoga poses.

UBS Bank Chief Group Operating Officer Case Challenge 2018

- Analysed data across internal and external sources to identify patterns to recognise prospective Mass Affluent Clients.
- Built desktop portal application with database integration – to reduce information-processing time in client onboarding process through client data automation and counterparty errors detection.

Shopee Tech Bootcamp 2.0

- Employed data analysis using Python Pandas to track vendor delivery time in SEA; managing complexities in business days elapsed to determine vendors' effect on operational costs.
- Learnt online seller fraud identification through data science, difficulties during promotional events and implementation of various discouragement efforts.

Computational modelling of a Curie Engine

- Developed innovative engine design using Curie point characteristics and thermomagnetic properties; model testing on COMSOL Multiphysics and MATLAB

Making N Tinkering

- Deployed computer-aided design using SolidWorks; product prototyping and testing through 3D Printing. Built a functioning speaker using 100% printed parts.

Quantum Mechanics equation solver

- Research into spectral analysis of solutions to time-independent schrödinger equation – for solving time-dependent schrödinger equation. Demonstrated effectiveness for a one-dimensional quantum harmonic oscillator.

## HOBBIES & INTERESTS

Motorcycles

- Fervent believer happiness involves a full tank of gas and an open road. Serial planner of convoy road trips across border.

Films

- Self-diagnosed with cinephilia. Quentin Tarantino fanboy. Stephen Chow's secret admirer.

Books

- Vehement about non-fictions such as biographies and historical accounts.