

Jay Zern Ng

<https://jayzern.github.io>

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EDUCATION

- **Columbia University** New York, NY
M.S. in Data Science; GPA: 3.67 Aug 2019 – Dec 2020
 - Operating Systems, Programming Languages & Translators, Computer Networks, Cloud Computing & Big Data, Databases
 - Applied Deep Learning, Applied Machine Learning (audit), Probabilistic Programming, Exploratory Data Analysis & Visualization, Probability & Statistics, Statistical Inference & Modeling
 - Capstone (Bloomberg L.P.): NLP and Deep Learning for automatic understanding and psycholinguistic modeling of events.
- **University of Warwick** Coventry, UK
B.S. in Data Science; First Class Honors: 80.2% Oct 2016 – Jul 2019
 - Major in Statistics and Computer Science; Minor in Mathematics
- **Tsinghua University** Beijing, CH
Deep Learning Summer School Jun 2020 – Jul 2020

PROGRAMMING

- Languages** ➢ C, C++, OCaml, Python, SQL, R, Java, Typescript, Javascript
- Frameworks** ➢ TensorFlow, PyTorch, Scikit-learn, Tidyverse, Pyro, Spark
- AWS, GCP, Docker, Kubernetes, Jenkins, Angular, React.js, Node.js, Git

EXPERIENCE

- **Boost** Kuala Lumpur, MY
Software Engineer Intern May 2020 – Sep 2020
 - Boost is a lifestyle e-wallet app with 10 million+ users. Built internal web applications and microservices using Angular, RxJS and Node.js. Deployed and monitored CI/CD pipelines using Docker, Kubernetes, Jenkins, AWS.
- **Columbia Law School** New York, NY
Research Assistant Sep 2019 – Apr 2020
 - Wrote a data engineering ETL pipeline for 100GB+ of JSON/XML text data into a PostgreSQL database. Developed a tool to detect academic citations using Regular Expressions and spaCy Named Entity Recognition.
- **Barclays** London, UK
Cybersecurity Intern Jun 2018 – Aug 2018
 - Monitored static application security dashboards and restructured the team's database schema using SQL. 3rd place hackathon prize for developing a chatbot that recommends a Barclaycard product using Django and DialogFlow.
- **VLT Labs** Kuala Lumpur, MY
Software Engineer Intern Jul 2017 – Sep 2017
 - VLT Labs is a venture builder based in Southeast Asia. Built chatbots using Angular, Node.js, MongoDB and spaCy to automate customer support. Implemented a frontend framework for an online retailer using object-oriented CSS.

SELECTED PROJECTS

- **Bayesian Online Changepoint Detection** My bachelor's thesis on time series analysis. Implemented the Log Gaussian Cox Process model in Python, with applications on bio-climatic data. Extended the model using sparse variational inference for faster inference and multitask learning for modeling covariances. Received the highest grade in my department of 91%.
- **TI-Lisp** Type Inference Lisp is a new functional programming language written in OCaml, C++ and LLVM, inspired by the Scheme language from MIT. It combines the power of a Lisp language and type checking; providing the best of dynamic and static typing languages. Implemented features such as macros, in-built functions, code optimization and garbage collection.
- **Covid-19 Literature Search** A BERT-based search engine that retrieves Covid-19 academic journals using PyTorch (HuggingFace), React.js, Flask and GCP; based on generated sentence embeddings trained on the Covid-19 Open Research Dataset by the Allen Institute for AI.