Jeffrey Chen

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EDUCATION

Massachusetts Institute of Technology 4.9/5.0 GPA — Class of 2022

- MEng in Artificial Intelligence, Computer Science Major, Math Minor
- Courses Taken by Jun '22: **Inference and Information Theory**, Algorithms for Inference, **Cryptography**, **NLP**, **Performance Optimization**, Advanced Algorithms, Machine Learning, Distributed Systems, **Cell Biology**, Real Analysis, Group Theory, Linear Algebra
- Nominated by MIT for the **Rhodes Scholarship 2021**

Harvard Summer and Extension School 4.0 GPA — June 2016 - May 2018

Cambridge Rindge and Latin School, Cambridge, MA 4.0 GPA — Class of 2018

- Awarded **Edward Hopkins Scholarship** for having top 6 GPA in the class of 2018- 6k Scholarship prize

EXPERIENCE

CSAIL - Berger Lab, *Undergraduate Research* — January 2021 - Present

- Currently working on multi-party homomorphic encryption system for secure Linear Mixed Model computation on GWAS(genomic data) written in Golang
- Paper in which I am first author is accepted by RECOMB 2022, a major biotech conference(not arxived yet)

Dyno Therapeutics, *Machine Learning Intern* — May 2020 - September 2020

- Worked on accurately predicting properties such as packaging, tropism, and transduction, to propose optimal AAV(viral) capsid DNA sequences, and building full scale machine learning infrastructural pipelines
- Lead research to discover novel signal in improving packaging ability in AAV genetic sequence optimization

Abelian AI, *Co-Founder* — November 2019 - November 2020

- Dorm room AI consulting that delivers end to end predictive systems
- Worked on ML system design(e.g. recommendation systems), full stack integration and deployment of production level apps, as well as business development

The Routing Company(formerly Routable AI), *Software Engineer* — May 2019 - September 2019

- Algorithmic development and implementation as an integral member of a ride hailing startup, helping reach a pre-seed round of over 1 million through the UFirst Accelerator.
- Worked extensively with Golang, ReactJS, Kubernetes, Docker, InfluxDB, MongoDB and Microservices.

Broad Institute - Regev Lab, *Undergraduate Research* — January 2019 - May 2020

- Working on unsupervised clustering in high dimensional subspaces to improve cluster overlap detection, with deep augmented Bayesian Inference mixture models.
- Sparsification and enriching of co-variance matrices with VAEs to produce independence graphs which can detect casual relationships from latent spaces.

Groove, *Team Lead* — January 2019

- A music suggestion service for friends built during a month long web programming competition.
- Integrated Spotify Oath API. Node JS/MongoDB backend; ReactJS frontend

RESEARCH AND TALKS

Chen, J. Wallar, A. Van Der Zee, M. Hong, D. Chai, L. (2019). *UFirst Demo Day*, 2018, Boston, Massachusetts.
Chen, J. Xin, J. Todd, G. (2017). *Investigating Combination Therapy in Triple-negative Breast Cancer Using CRISPR + Drug Combo Perturbations.*, 2017, Cambridge, Massachusetts.

SKILLS

Software	Python, Golang, ReactJS, Javascript, CSS, HTML, C++, LaTeX
Math	Probability, Group Theory, Real Analysis, Linear Algebra, Discrete Math, Multivariable
Tooling	Pytorch, Kubernetes, Docker, MongoDB, Pandas, Numpy, HAIL, Scanpy