# Jeffrey Chen

96 Jackson St, Cambridge, MA, 02140
ceff@mit.edu · (617) 335-7089


## EDUCATION

Massachusetts Institute of Technology 4.8/5.0 GPA — Class of 2022

· Computer Science Major

· Courses Taken by Jun '21: **Inference and Information Theory**, Algorithms for Inference, **Cryptography**, **NLP**, Advanced Algorithms, Machine Learning, Probabilistic Systems, Computer Systems, **Quantum Physics**, **Cell Biology**, Web Programming, Real Analysis, Group Theory, Linear Algebra, Design Lab

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

· Manuscripted a paper that I will be first author in, preparing it for submission to Nature Biotechnology

**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 - Present

· 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

**Broad Institute - Golub Lab**, *Wet Lab Intern* — June 2017 - July 2018

· Worked on drug combination synergy and identifying markers for brain metastases. Had extensive hands on experience with wet lab work, including tissue culture, PCR, and drug data analysis.

## 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

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|---|---|
| **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 |