

Can (Sunny) Cui

scui@princeton.edu | github.com/sunnyccui | [linkedin.com/in/sunnyccui](https://www.linkedin.com/in/sunnyccui)

EDUCATION

Princeton University
Ph.D. Computer Science

September 2020

California Institute of Technology
Bachelor of Science in Electrical Engineering, Minor in Data Science

June 2020

PUBLICATIONS

DeepCell Datasets: Building a Single-Cell ImageNet for Biology

E Moen, G Miller, N Greenwald, E Borba, M Schwartz, T Price, I Camplisson, N Koe, S Cui, C Pavelchek, T Dougherty, T Kudo, E Pao, W Graf, L Keren, M Angelo, D Van Valen. *NeurIPS 2020 LMRL Workshop*

Optimizing Deep Neural Networks for Single Cell Segmentation

S Cui. *Senior thesis (Major), California Institute of Technology*: doi:10.7907/030b-pm67. <https://resolver.caltech.edu/CaltechTHESIS:06052020-210957529>

Dynamic allocation of computational resources for deep learning-enabled cellular image analysis with Kubernetes

D Bannon, E Moen, M Schwartz, E Borba, S Cui, K Huang, I Camplisson, N Koe, D Kyme, B Chang, E Pao, E Osterman, W Graf, and D Van Valen. *Submitted to Nature Methods bioRxiv 10.1101/505032v3*

PROFESSIONAL EXPERIENCES

Snap Inc. Santa Monica, CA

June 2020 - August 2020

Software Engineering Intern; Platform Engineering Team

- Implemented progressive download throttling in android and iOS to save ~20% of user data in ads streaming
- Built an original resumable upload framework on server and client sides that uses GCS APIs in Java and Obj-C

Van Valen Lab at Caltech Pasadena, CA

January 2018 - June 2020

Undergraduate Researcher

- Optimized deep neural nets for segmentation of 2D and 3D live single cell data
- Built custom recurrent units to enhance neural net performance in predicting time series data
- Extended MaskRCNN framework with association embeddings for simultaneous segmentation and tracking

Snap Inc. Santa Monica, CA

June 2019 - September 2019

Software Engineering Intern; Platform Engineering Team/Stories Team

- Greatly enhanced auto-retry features and metrics for iOS message and Story uploads, and shipped to production
- Implemented from scratch a web crawler for publisher prospecting to help meet \$100M ad revenue goal

Viasat Carlsbad, CA

June 2018 - September 2018

Software Engineering Intern

- Automated the provisioning of optical network nodes in support of Viasat's next generation satellite network
- Designed and built a zero touch provisioning system using RESTful APIs and SQLAlchemy; deployed with Docker

Gharib Aerospace Lab at Caltech Pasadena, CA

January 2017 - November 2017

Undergraduate Researcher / SURF Fellow

- Designed and characterized a wearable carbon nanotube based strain gauge sensor; to detect a range human motions, from joint movement to arterial waveforms, for applications in human health monitoring and soft robotics

PROJECTS

Netflix Prize

April 2019-June 2019

- Implemented TimeSVD++, KNN, neighborhood, RBM, baseline, and other matrix factorization models in C++ for collaborative filtering of the MovieLens dataset with over 20M data-points for better user-movie rating predictions

Multi-Discriminator Generative Adversarial Networks (MDGANs)

April 2019-June 2019

- Investigated the performance and convergence of novel MDGANs using live and toy datasets, and found them to have more desirable qualities than traditional generative networks

EAST

November 2018-March 2019

- Created an open source application in a team setting, using K-distance trees and transforms, to perform precise DNA sequence alignments more rapidly than conventional tools like BLAST

LEADERSHIP EXPERIENCE

CaltechY Pasadena, CA

May 2017 - June 2020

President

- Coordinated outdoor adventures and community service events to enrich academic experience of 500+ students

Caltech Society of Women Engineers Pasadena, CA

May 2017 - June 2020

President

- Organized Introduce a Girl to Engineering Day that brings over 100 middle school girls to Caltech Campus for a day of workshops, and also coordinated lab tours, club socials and national SWE conferences attendance

TEDxPasadena Pasadena, CA

January 2017- September 2019

Director of Interactive

- Negotiated partnerships with tech and entertainment companies to provide unique experiences that enhance the networking experience for over 500 attendees at annual day conference

AWARDS

Mabel Beckman Prize

May 2020

Award given to an undergraduate woman who, upon completion of her junior or senior year at Caltech, has achieved academic excellence and demonstrated outstanding leadership skills, a commitment to personal excellence, good character and a strong interest in the Caltech community.

Donald S. Clark Award

May 2019

Award given annually to two or three juniors in Engineering for academic excellence and service to the Caltech community

2018 Facebook Grace Hopper Conference Scholar

September 2018

Scholarship for registration and travel to the 2018 GHC conference, with additional weeklong special programming.