Can (Sunny) Cui

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EDUCATION

Princeton University   September 2020 - May 2022

M.S.E. Computer Science
- *Graduate Coordinate* at **McGraw Center for Teaching and Learning**
- *Teaching Assistant* for **COS340** Reasoning about Computation (Fall 2021)
- *Teaching Assistant* for **COS513** Foundations of Probabilistic Modeling (Spring 2022)
- Advised by Barbara Engelhardt

California Institute of Technology   2016 - 2020

B.S in Electrical Engineering with Minor in Data Science
- *Waterpolo team, Dean's tutor & Admission's blogger*

PUBLICATIONS

Hierarchical Gaussian Processes and Mixtures of Ex-perts in Predicting COVID Patient Trajectories
S Cui, E Yoo, D Li, K Laudanski, B Engelhardt.
PSB 2022, Precision Medicine Track

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*

Whole-cell segmentation of tissue images with human-level performance using large-scale data annotation and deep learning
N Greenwald, G Miller, E Moen, A Kong, A Kagel, T Dougherty, C Fullaway, B McIntosh, K Leow, M Schwartz, T Dougherty, C Pavelchek, S Cui, I Camplisson, O Bar-Tal, J Singh, M Fong, G Chaudhry, Z Abraham, J Moseley, S Warshawsky, E Soon, S Greenbaum, T Risom, T Hollmann, L Keren, W Graf, M Angelo, D Van Valen.
Nature Biotechnology (2021) bioRxiv 2021.03.01.431313

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

AWARDS

Gordon Y.S. Wu Fellowship in Engineering   2020
Princeton's most prestigious engineering fellowship for incoming graduate students.

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.

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