

Jasmine Talia Stone

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Education

Columbia University, New York, NY: Ph.D. Student in Neurobiology and Behavior August 2021-Present

University of Cambridge, Churchill College, Cambridge, UK: M.Phil. in Engineering Expected September 2021

- Supervisor: Guillaume Hennequin
- Supported by the Simpson Churchill Scholarship
- Thesis: *Scalable Gaussian Process Factor Analysis*

Yale University, New Haven, CT: B.S. Computer Science—GPA: 3.94 (4.0 and Distinction in Major) May 2020

- Phi Beta Kappa, Magna Cum Laude
- Thesis: *PsychRNN: An open-source Python package for training artificial recurrent neural networks on cognitive tasks.*

Liberal Arts and Science Academy (LASA), Austin, TX—GPA: 4.56 May 2016

- Presidential Scholar Semifinalist,
International competition for Genetically Engineered Machines (iGEM) Gold Medal

Awards and Scholarships

NSF GRFP (worth \$138k over 3 years, awarded to ~2k students pursuing US research degrees annually)	2021
DOD NDSEG (Declined; worth \$123.8k over 3 years + fees and tuition, awarded to 500 of 8k applicants)	2021
Churchill Scholar (awarded annually to 16 Americans, funds 1 year Masters at University of Cambridge)	2020
Saybrook Fellow's Prize (Yale's Saybrook College recognizes 2-3 seniors' intellectual achievement annually)	2020
Hertz Finalist (one of 41 finalists for the prestigious Hertz Fellowship providing STEM Ph.D. funding)	2020
Barry Goldwater Scholar (awarded annually to rising juniors and seniors for research excellence)	2019
Saybrook College Research Grant (awarded for independent research triannually by Yale's Saybrook College) Spring & Fall	2019
Saybrook College Mellon Senior Research Grant (supports seniors' research and presentation to peers)	2019
Cosyne Mentorship Grant (awarded by Cosyne, a premiere neuroscience conference, to sponsor attendance)	2019
National Center for Women in Technology (NCWIT) Collegiate Award Finalist (awarded to 74 nationally)	2019
Betty Stevens-Frecknall Scholarship (national award given to 2-8 people annually majoring in computing)	2018
Women Forward in Technology Scholarship (national award given to ~10 women annually)	2017
Benjamin F. Barge Prize (awarded annually by the Yale Math Department for excellence in mathematics)	2017
Eli Lilly / BDP A Scholarship (awarded to 3 nationally for academic and service excellence)	2017
Grace Hopper Conference Student Scholarship (awarded internationally by the Anita Borg Institute)	2017
Microsoft Scholarship Award Recipient (international award given for leadership and academic excellence)	2017
Aspirations in Computing Award, Central Texas Affiliate (awarded by NCWIT annually)	2014/15/16

Publications and Posters

Jensen, K. T., Kao, T.-C., **Stone, J. T.**, & Hennequin, G. (2021). Scalable Bayesian GPFA with automatic relevance determination and discrete noise models. *BioRxiv*, 2021.06.03.446788. <https://doi.org/10.1101/2021.06.03.446788>.
Manuscript under review as conference paper.

*Ehrlich, D. B., ***Stone, J. T.**, Brandfonbrener, D., Atanasov, A., & Murray, J. D. (2020). *PsychRNN: An Accessible and Flexible Python Package for Training Recurrent Neural Network Models on Cognitive Tasks*. *ENeuro*.
<https://doi.org/10.1523/ENEURO.0427-20.2020> (* indicates equal contribution)

Stone J. T., Ehrlich D. B., Atanasov A., Brandfonbrener D., Murray J. D. (2019). *PsychRNN: An open-source Python package for training artificial recurrent neural networks on cognitive tasks*. Poster presented at Society for Neuroscience Meeting (SfN 2019), Chicago, IL, USA. Also presented as a poster at Neuromatch 2.0 (2020).

Berens P., Freeman J., [and 25 others including **Stone, J.**] (2018). *Community-based benchmarking improves spike rate inference from two-photon calcium imaging data*. *PLoS Comput Biol* 14(5): e1006157. <https://doi.org/10.1371/journal.pcbi.1006157>

Stone, J. (2017) *My Brother's Sister*. Yale Herald, Literary Edition. <https://yaleherald.com/my-brothers-sister-36627117c2a7>

Berens, P., Theis, L., **Stone, J. T.**, et al. (2017). *Standardizing and benchmarking data analysis for calcium imaging*. Poster presented at Computational and Systems Neuroscience Meeting (COSYNE 2017), Salt Lake City, UT, USA.

Stone, J., Bonnen, K., Huk, A., & Cormack, L. (2016). *Manual target tracking reveals a perceptual asymmetry between crossed and uncrossed disparities*. *Journal of Vision*, 16(12), 840-840. Poster presented at Vision Sciences Society Symposium and Workshop on Natural Environments Tasks and Intelligence 2016.

Talks

PsychRNN: An Accessible and Flexible Python Package for Training Recurrent Neural Network Models on Cognitive Tasks. (2020) Neuromatch 3.0 (virtual). https://www.youtube.com/watch?v=OY_Ix-QwB4Y

Patents

Stone, J., et. al. 2020. NEUROMUSCULAR CONTROL OF AN AUGMENTED REALITY SYSTEM. U.S. 20200097081, filed Sept. 20, 2019, and issued Mar. 26, 2020. (Worldwide Patent)

Mao, Q., **Stone, J.** et. al. 2020. NEUROMUSCULAR CONTROL OF PHYSICAL OBJECTS IN AN ENVIRONMENT. U.S. 20200097083, filed Sept. 26, 2019, and issued Mar. 26, 2020. (Worldwide Patent)

Research Experience

Cambridge University, Engineering: Prof. Guillaume Hennequin's Lab 2020-Present

- Implemented novel techniques to scale Gaussian Process Factor Analysis (GPFA) methods to work on an hour or more of electrophysiology data (previously only worked on ~30s of data).

Yale University, Psychiatry: Prof. John Murray's Lab 2017-2020

- Implemented new features, polished, documented, and released open source package, PsychRNN, for modeling cognitive tasks using recurrent neural networks.

CTRL-Labs (now part of Facebook), Interactions Team: Intern Summer 2018/19

- Designed, implemented, executed, and analyzed multiple experiments with more than 80 human subjects to evaluate cursor control and gesture detection using CTRL-labs' neural interface.
- Decreased gesture detection latency by 80ms, built benchmarks to determine which gestures to ship.
- Collaborated with and organized work across multiple teams.
- Owned patent communication with an external legal team on one patent on which I am an inventor.
- Outreach: Organized and ran multiple recruiting events; Demoed at Microsoft Research.

Yale University, Applied Math: Prof. Gal Mishne's Lab Spring 2018

- Initiated and worked on computational vision project to automate whisker tracking and paw tracking of mice in order to facilitate data analysis and classification.

Janelia, Howard Hughes Medical Institute: Dr. Jeremy Freeman's Lab Summer 2016

- Compared calcium ion imaging analysis algorithms and modified them to be universally usable.
- Developed supervised learning algorithm for analysis.

University of Texas (UT), Neuroscience: Prof. Lawrence Cormack's & Prof. Alexander Huk's Lab 2014-2019

- Programmed, ran, and analyzed Matlab experiments for 3D motion tracking.

Technion – Israel Institute of Technology: Scitech Program Summer 2014

- Researched viability of amniotic epithelial stem cells: Best Presentation Award.

Teaching

The Coding School: CodeConnects Teacher 2020-2021

- Teach 1:1 & develop curriculum for high school students learning Python and Data Science.
- Volunteered more than 60 teaching hours.

Neuromatch Academy (online school in computational neuroscience): Teaching Assistant July 2020

- Taught, advised on projects, & moderated 9 undergrads and graduates in a 3 week intensive course.

Yale Computer Science, Data Structures Class: Undergraduate Learning Assistant Fall 2017

- Held office hours for students taking Data Structures, a required class for the major.

- Clarified problem set specifications, graded exams.

SheCode: Volunteer Teaching Assistant

2017-18

- Guided middle/high school girls through first python modules.
- Individualized attention across approximately ten students at a time, each with specific needs.

Affiliation and Service

Black Undergraduate Mentorship Program in Biology at Columbia University: Research Mentor 2021-Present

- Assist mentee with the summer research opportunity application process, edit CV, and provide general advice on managing the application process.

Project SHORT: Pro-Bono Ph.D. and Fellowship Application Mentor 2020-Present

- Assist with school selection, edit CVs, and provide general advice to applicants with diverse experiences to combat socioeconomic and systemic inequalities in graduate admissions.

Winston Churchill Foundation: Fellowship Awardee 2020-21

- Led efforts to incorporate Historically Black Colleges and Universities as participating institutions.

International Precollege Association for Research in STEM: Advisor Jun-Dec 2020

- Advised 5 mentors, addressed questions and concerns as they arose.

Yale School of Engineering & Applied Science: Student Review Committee for the Ackerman Award Apr 2020

- Selected by the Computer Science department to select the recipient for the Ackerman Award for Teaching & Mentoring.

Other Work Experience

Google, Next Billion Users: Engineering Practicum Intern Summer 2017

- Designed and created an Android app focused on emerging markets.
- App enabled data collection on over 1,500 hotspots in India, Brazil and Indonesia, providing the dataset for a supervised learning algorithm that has greatly improved network quality reports.

Yale Symphony Orchestra: Stage Crew Spring 2017

- Set up and cleaned up chairs, stands and anything else needed for rehearsals and concerts.

Other Leadership

Yale Synchronized Swimming: Founding Member 2017-2020

- Initiated team formation by registering with national governing body of synchronized swimming.
- Recruited founding team members and leadership team.
- Advised leadership team on Club Sports relations, resources, and rules.

Yale Women's Water Polo: Travel manager (Elected) 2017-18

- Organized move-in fundraiser, raising over \$800 for the team of approximately 14 people.
- Organized travel arrangements for 2 away competitions and a week-long training trip to Austin, TX; Obtained pool time; Organized scrimmages; Recruited two coaches for the duration of training trip; Arranged housing, transportation, and meals.
- Ensured travel complied with Yale Club Sports regulations.

Other Event Participation

Jane Street's Software Development INSIGHT Program: Introduced to OCaml and trading. Jan 2017

HackMIT: Made therapy tool for patients and doctors using Firebase and Leap Motion. Fall 2016

Skills and Interests

Technology: Python, Git, TensorFlow, Jupyter Notebooks, MATLAB, C, Java, Racket, Cuda, OpenMPI, OpenMP

Foreign Languages: Hebrew (conversational), Spanish (proficient)

Athletics: Cambridge Canoe Polo, Yale Women's Water Polo, Nationally Ranked Synchro Swimmer 2006-Present

Violin: Cambridge University Symphony Orchestra, Yale Symphony Orchestra, Texas All-State Orchestra 2002-Present