

Tavor Baharav

CONTACT INFORMATION	<i>Email:</i> tavorb@stanford.edu	<i>Web:</i> www.tavorb.com
RESEARCH INTERESTS	Randomized algorithms, machine learning, multi-armed bandits, and their applications in engineering problems.	
EDUCATION	Stanford University Ph.D., Electrical Engineering, expected graduation 2023 Advisor: David Tse	Sept 2018 - Present
	University of California, Berkeley B.S., Electrical and Computer Engineering, Highest Honors Mathematics minor GPA: 4.00	Aug 2014 - May 2018
RELEVANT COURSEWORK	Computer Science: Algorithms, Artificial Intelligence, Databases, Machine Learning, Spectral Graph Theory, Randomized Algorithms, Matching Theory Electrical Engineering: Random Processes, Convex Optimization, Convex Optimization and Approximation, Information Theory, Advanced Topics in Information Theory Mathematics: Linear Algebra, Abstract Algebra, Numerical Analysis, Real Analysis, Complex Analysis	
RESEARCH	Multi-Armed Bandits: Prof. David Tse <i>Stanford ISL (Information Systems Laboratory)</i> <ul style="list-style-type: none">Designed and implemented multi-armed bandit based randomized algorithms for solving certain computation problems in near linear timeDesigned a spectral algorithm for efficiently estimating pairwise alignment of DNA reads	July 2018 - Present
	Information Theory: Prof. Kannan Ramchandran <i>BLISS (Berkeley Laboratory for Information and System Sciences)</i> <ul style="list-style-type: none">Studied use of codes to mitigate affect of stragglers on large scale distributed computationDesigned, implemented, and tested codes for distributed computation on Amazon EC2Analyzed and characterized performance of high dimensional product codes and deterministically generated LDPC ensemblesDeveloped C++ testing framework for Sparse Walsh-Hadamard Transform	Apr 2016 - July 2018
	Image Processing: Prof. Avideh Zakhor <i>VIP Lab (Video and Image Processing Lab)</i> <ul style="list-style-type: none">In situ plant stem width estimation in 2.5d images research with TERRA MEPPCollaborated with groups in Cornell and UIUC to design robot and guide data collectionDeveloped image processing algorithms to detect, measure, and track stems over plots	May 2015 - Feb 2017
PUBLICATIONS	Tavor Z. Baharav* , Govinda M. Kamath*, David N. Tse, Ilan Shomorony. <i>Spectral Jaccard Similarity: A new approach to estimating pairwise sequence alignments</i> . Submitted to RECOMB 2020, available online at https://www.biorxiv.org/content/10.1101/800581v1 Tavor Z. Baharav , David Tse. <i>Ultra Fast Medoid Identification via Correlated Sequential Halving</i> . Accepted to NEURIPS 2019, available online at https://arxiv.org/abs/1906.04356 Tavor Z. Baharav , Kangwook Lee, Orhan Ocal, Kannan Ramchandran. <i>Straggler-proofing massive-scale distributed matrix multiplication with d-dimensional product codes</i> . IEEE	

Int. Symp. on Inf. Theory (ISIT) 2018.
Presented at IEEE Intl. Symp. on Inf. Theory (ISIT 2018).

Tavor Baharav, Mohini Bariya, Avideh Zakhor. *In Situ Height and Width Estimation of Sorghum Plants from 2.5d Infrared Images*. *Electronic Imaging*, 2017(17), pp.122-135.
Presented at IS&T Intl. Symp. on Electronic Imaging (EI 2017)

HONORS	NSF Graduate Research Fellowship: 2018 <i>3 year National Science Foundation Fellowship for graduate students</i> Stanford Graduate Fellowship (Alcatel-Lucent Fellow): 2018 <i>3 year fellowship awarded to exceptional incoming and continuing doctoral students</i> UC Berkeley EECS Honors Program: 2016 <i>Program for high achieving EECS Undergrads pursuing a concentration outside of EECS</i> Eta Kappa Nu: 2015 <i>Member of IEEE's Honor Society</i> Tau Beta Pi: 2015 <i>Member of Engineering Honor Society</i> L.J. Craig Engineering Scholarship: 2015 <i>Awarded to outstanding Jewish Engineering students at UC Berkeley</i> UC Berkeley Regents' and Chancellor's Scholar: 2014-2018 <i>Awarded to top 1% of incoming undergraduates</i>
TEACHING EXPERIENCE	<i>Head Undergraduate Student Instructor</i> , EE126 (Random Processes) Spring 2018 <ul style="list-style-type: none">Helped scale the course from 70 students in Spring 2017 to over 200 students in 2018Taught weekly discussion sections, coordinated a course staff of 11 TAs and gradersCreated exams as well as lab and homework assignments <i>Undergraduate Student Instructor</i> , EE126 (Random Processes) Spring 2017 <ul style="list-style-type: none">Hosted weekly lab section, created assignments and exams <i>Reader</i> , CS70 (Discrete Math and Probability), CS170 (Algorithms) Fall 2015, Spring 2016 <ul style="list-style-type: none">Mentored students, graded assignments, and hosted office hours <i>Lab Assistant</i> , CS61BL (Data Structures and Algorithms) Summer 2015 <ul style="list-style-type: none">Assisted running section in addition to answering questions and grading quizzes
TECHNICAL SKILLS	Programming: Python, C++ Applications: L ^A T _E X Languages: English (native), Hebrew (native)
PROFESSIONAL SERVICE	Organizer for Information Systems Laboratory Colloquium (ISLC) Winter 2019 - Present Reviewer for International Symposium on Information Theory (ISIT) 2019
SERVICE	Eta Kappa Nu, Mu Chapter: Fall 2015 - May 2018 <ul style="list-style-type: none">Active member, led review sessions for intro courses<i>Community Service Officer</i>, Spring 2016<ul style="list-style-type: none">Led HKN in organizing its first local community focused service event High school students come for a 6 hour day, with a faculty speaker, custom CS lab, circuits lab, tour of a Research lab, and student panelService event still successfully running, attracting over 50 students from local Oakland High Schools<i>Treasurer</i>, Fall 2016<ul style="list-style-type: none">Managed budget and allocated finances for club of over 100 active members