

Rishi Sharma

rishi.info
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SHORT BIO

Rishi is a Ph.D. Student in the Department of Electrical Engineering at Stanford University co-advised by Stefano Ermon and Vijay Pande. He works on various topics in artificial intelligence, including deep generative modeling, deep learning for physical and chemical systems, deep learning for physical and chemical systems, and computer vision for robotics. Rishi is supported by at Stanford Graduate Fellowship.

Since 2019, Rishi has been on leave from graduate school focused on building intelligent warehouse robots at OSARO Robotics. During his tenure at OSARO, Rishi originally worked on computer vision problems, before moving to technical leadership/management in multiple areas of the company.

In the past, Rishi has worked on computational neuroscience, coding theory, optimization, and virtual reality. He received a B.S. in Electrical Engineering & Computer Sciences from U.C. Berkeley in 2015, where he was awarded the Warren Dere Design Award for outstanding work in engineering & design.

Core Areas of Expertise: Machine Learning, Signal Processing, Robotics
Core Technologies Used: Python, Java, PyTorch, Tensorflow, Docker

EDUCATION

STANFORD UNIVERSITY | PH.D. ELECTRICAL ENGINEERING
September 2016-Present | Stanford, CA

UNIVERSITY OF CALIFORNIA, BERKELEY | B.S. ELECTRICAL ENGINEERING & COMPUTER SCIENCES
Emphasis: Coding Theory, Signal Processing, Machine Learning
January 2012 - December 2015 | Berkeley, CA

YOGA TEACHER TRAINING | RYT-200, RCYT-30
200 Hour Training (Yoga Tree), 30 Hour Children's Yoga Training (Radiant Child Yoga)
2015 | San Francisco, CA ; Chicago, IL

RESEARCH & WORK EXPERIENCE

OSARO ROBOTICS COMPUTER VISION | INFRASTRUCTURE | MANAGEMENT
January 2019 - Present | Stanford, CA

Joined OSARO to work on problems in Computer Vision and Robotics and was promoted twice during tenure: once to manage a group working towards a key customer delivery, and again to manage the Infrastructure/Backend team at OSARO.

STANFORD UNIVERSITY | ERMON GROUP & PANDE LAB
January 2017 - Present | Stanford, CA
Work on problems in artificial intelligence and machine learning.

QUALCOMM BERKELEY RESEARCH | ERROR CORRECTING CODES GROUP

PRINCIPAL INVESTIGATOR: Mike Luby
May 2014 - December 2014 | Berkeley, CA
Worked on the construction and simulation of a sparse-graph codes for distributed storage applications.

UNIVERSITY OF CALIFORNIA, BERKELEY | OPTIMIZATION ALGORITHMS
January 2014 - December 2014 | Berkeley, CA

Research with Prof. Laurent El Ghaoui on cardinality constrained optimization algorithms for use on large text data.

REDWOOD CENTER FOR THEORETICAL NEUROSCIENCE | COMPUTATIONAL NEUROSCIENCE
December 2012 - December 2013 | Berkeley, CA

Developed learning algorithms for understanding and predicting olfactory response in mice.

NEUROVIGIL, INC. | COMPUTATIONAL NEUROSCIENCE
June 2013 - August 2013 | La Jolla, CA

I worked on building brain-computing interfaces

PAPERS

(see Google Scholar for up-to-date list)

A NOTE ON THE INCEPTION SCORE

w/ Shane Barratt, ICML 2018 Workshop on Theoretical Foundations and Applications of Deep Generative Models

OPTIMIZING FOR GENERALIZATION IN MACHINE LEARNING WITH CROSS-VALIDATION GRADIENTS

w/ Shane Barratt, In Submission 2018

WEAKLY-SUPERVISED DEEP LEARNING OF HEAT TRANSPORT VIA PHYSICS INFORMED LOSS

w/ Joe Gomes, Amir Farimani, Peter Eastman, and Vijay Pande, In Submission 2018

IMPROVED TRAINING WITH CURRICULUM GANS

w/ Shane Barratt, Stefano Ermon, and Vijay Pande, In Submission 2018

DEEP LEARNING PHASE SEGREGATION

w/ Amir Farimani, Joe Gomes, Franklin Lee, and Vijay Pande, In Submission 2018

ITERATIVE HARD THRESHOLDING FOR KEYWORD APPROXIMATION IN LARGE TEXT CORPORA

w/ Steve Yadlowsky, Preetum Nakkiran, Jingyan Wang, and L. El Ghaoui, Proc. ICMLA 2014

HONORS, GRANTS, & AWARDS

STANFORD GRADUATE FELLOWSHIP | STANFORD UNIVERSITY

2016

The three-year Stanford Graduate Fellowship in Science and Engineering (SGF) supports exceptional incoming and continuing doctoral students in the natural and social sciences education, and engineering.

WARREN DERE DESIGN AWARD | EECS DEPARTMENT: UNIVERSITY OF CALIFORNIA, BERKELEY

2015

Won for work in spatial audio. This award is presented to graduating seniors in EECS whose accomplishments in engineering design are judged to be most outstanding.

TEACHING

EE 126: PROBABILITY THEORY AND STOCHASTIC PROCESSES | GRADUATE STUDENT INSTRUCTOR: UNIVERSITY OF CALIFORNIA, BERKELEY

INSTRUCTOR: PROF. KANNAN RAMCHANDRAN

May 2014 - May 2015 | Berkeley, CA

Developed labs for the course to exercise students skills in applied probability. The labs covered a wide diversity of topics including random projections, random graphs, GPS, distributed storage, and computational biology. These labs are still in use by course instructors (as of Spring 2017).

YOGA & SERVICE

STANFORD AEROBICS & YOGA | STANFORD UNIVERSITY

2017 - 2019 | Chicago, IL

Taught weekly Yoga classes to students at Stanford University largest jail in America by population.

YOGA FOR REFORM (PRISON YOGA) | COOK COUNTY SHERIFF'S DEPARTMENT

September 2015 - March 2016 | Chicago, IL

Taught Yoga & Meditation to inmates in the mental health division of the Cook County Jail, the largest jail in America by population.

CHILDREN'S YOGA TEACHER | | GROW CHICAGO

September 2015 - February 2016 | Chicago, IL

Taught Yoga & Meditation to pre-kindergarten through eighth graders at O'Toole Middle School and AMS Montessori School in Englewood on the South Side of Chicago. Mentored young boys in self-respect, self-efficacy, and self-love.

TEACHING ASSISTANT AT YOGA TREE SF | POST-NATAL YOGA

INSTRUCTOR: JANE AUSTIN

July 2015 - August 2015 | San Francisco, CA

Assisted Jane in post-natal Yoga classes, with moms and newborn babies; Gave mothers individualized attention by attending to their newborn while guiding them through their practice.

PROGRAM AMBASSADOR AT YOGA TREE SF | TEACHER TRAINING AMBASSADOR

July 2015 - August 2015 | San Francisco, CA

Student course assistant for 200-Hour Yoga Tree Teacher Training Program

CHILDREN'S HOSPITAL VOLUNTEER | LUCILE PACKARD CHILDREN'S HOSPITAL

June 2006 - August 2013, Stanford, CA

Provided recreational activities and entertainment to patients in the hospital.

SCHOOL TEACHER IN INDIA | UMANG AT SANSKRITI SCHOOL

June 2010 - July 2010, New Delhi, India

Volunteered with underprivileged youth from the slums of New Delhi, India; taught fourth grade math and English.

CERTIFICATIONS

AMATEUR RADIO LICENSE | FEDERAL COMMUNICATIONS COMMISSION

March 2014 - March 2024

Call Sign: KK6KJE

MISC. WORK EXPERIENCE

INTERN AT SINGULARITY UNIVERSITY | AUDIOVISUALS

June 2012 - August 2012 | Moffet Air Field, Mountain View, CA

Audiovisual technician for over 100 terrific lectures from leading innovators in wide range of fields

INTERN AT COUNSYL, INC. | LAB ASSISTANT, PACKAGING

March 2010 - August 2010 | Redwood City, CA

Lab assistant in genetic testing; assisted shipping and receiving of genetic samples

CONCESSIONS STAND OPERATOR | CENTURY 20 MOVIE THEATERS

June 2009 - August 2009 | Milpitas, CA

Served beverages and popcorn