
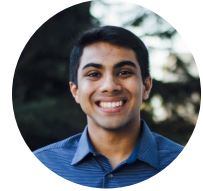


Nikhil SHARMA

Researcher, Developer, and Educator

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PROFESSIONAL EXPERIENCE

Present September 2018	Software Engineer Oasis Labs, BERKELEY, CA <ul style="list-style-type: none">Working on a privacy-first cloud computing platform on blockchain. <div>Smart ContractsFPGASoftware Attestation</div>
August 2018 May 2018	Software Engineering Intern Google, MOUNTAIN VIEW, CA <ul style="list-style-type: none">Worked on the Ads: Infrastructure teamConstructed a statistical analysis tool for visualizing patterns in sampled ad requestsDerived and implemented scalable approximation algorithms for estimating summary statistics <div>BootstrapjQueryjslayoutC++Google Charts</div>
August 2017 May 2017	Software Development Intern Amazon Lab 126, SUNNYVALE, CA <ul style="list-style-type: none">Worked on the Alexa Engine teamDesigned and implemented an extensible API integrating Alexa Voice Service with Alexa Skills KitProduct developed into Alexa Gadgets Toolkit and made available for commercial use <div>AWS SQSAWS LambdaAWS IAMIntelliJMVenRaspberry Pi</div>
August 2016 May 2016	Engineering Practicum Intern Google, KIRKLAND, WA <ul style="list-style-type: none">Worked on the Ads: Engineering Productivity TeamConstructed an infrastructural tool for dependency tracking and visualization <div>JavaEclipseDependency injectionRPC</div>

RESEARCH

August 2018 March 2018	Summer Undergraduate Research Fellow Prof. Olga Holtz, BERKELEY, CA <ul style="list-style-type: none">Explored properties of border rank in tensors for improving complexity of matrix multiplicationImplemented approximation algorithms for tensor rank using alternating least squaresPresented work at the 2018 SURF Conference <div>Tensor DecompositionConvex OptimizationComplexity Theory</div>
May 2018 January 2017	Undergraduate Researcher Prof. Dawn Song, BERKELEY, CA <ul style="list-style-type: none">Worked on developing a scalable and distributed pipeline for machine learning which automatically enforces user-specifiable differential privacy guaranteesPublication submitted to IEEE S & P 2019 <div>Differential PrivacyMachine LearningSGX Enclaves</div>
November 2015 November 2014	Undergraduate Researcher Prof. Ken Goldberg, BERKELEY, CA <ul style="list-style-type: none">Worked in UC Berkeley's Lab for Automation Science and EngineeringGenerated massive datasets representing common objects as point meshes for robotic graspingImplemented stable pose computation and binary image processing algorithms for object detection <div>Image ProcessingRoboticsData Mining</div>

EDUCATION

2018-2019	Master of Science in Electrical Engineering and Computer Science, UC BERKELEY <i>Relevant Coursework:</i> Secure Hardware, Deep Reinforcement Learning, Computer Vision
2014-2018	Bachelor of Science in Electrical Engineering and Computer Science (3.8 / 4.0), UC BERKELEY <i>Relevant Coursework:</i> Operating Systems, Databases, Data Structures, Algorithms, Security
2014-2018	Bachelor of Science in Engineering Mathematics and Statistics (3.8 / 4.0), UC BERKELEY <i>Relevant Coursework:</i> Probability Theory, Convex Optimization, Linear Algebra, Stochastic Processes

TEACHING

2016-2018	Computer Science 188	Introduction to Artificial Intelligence, UC BERKELEY
2018	Computer Science 170	Algorithms and Intractable Problems, UC BERKELEY
2017	Computer Science 168	Internet Architecture and Protocols, UC BERKELEY
2015-2016	Computer Science 70	Discrete Mathematics and Probability Theory, UC BERKELEY

PROGRAMMING LANGUAGES

Python	● ● ● ● ●
Java	● ● ● ● ●
C / C++	● ● ● ● ●
Javascript	● ● ● ● ○
Rust	● ● ● ● ○

HONORS SOCIETIES

- > Tau Beta Pi Engineering Honors Society
- > Eta Kappa Nu EECS Honors Society

TEST SCORES

- > SAT: 2360
- > GRE: 339

INDEPENDENT PROJECTS

ENACT SYSTEMS SHADING ALGORITHM

JANUARY 2018

 [Enact Shading Algorithm](#)

Worked as a consultant developer for Enact Systems, a software platform for solar projects. Derived and implemented a production-grade algorithm for 3D spatial analysis which is used to optimize panel placement around rooftop obstructions.

3D Geometry Python

IMAGE ANALOGIES

NOVEMBER 2017

 github.com/sharmaster96/Image-Analogies  [Image Analogies](#)

Implemented the *image analogies* algorithm for image style transfer, as described in the **original paper** by Hertzmann et al.

Computational Photography Linear Algebra

COMPUTER SCIENCE 188 COURSE TEXTBOOK

AUGUST 2016

 [Introduction to Artificial Intelligence](#)

Primary author of the official course textbook for *CS 188: Introduction to Artificial Intelligence* at UC Berkeley (wrote 8 of 9 total chapters). The textbook is used by 700-800 Berkeley students in the course each semester.

Artificial Intelligence 

AWARDS AND SCHOLARSHIPS

March 2018	Outstanding Graduate Student Instructor Award - An award to honor UC Berkeley GSIs each year for their outstanding work in the teaching of undergraduates, nominated from within each teaching department.
October 2017	Accel Fellowship - A program for providing unparalleled opportunities for students to grow and develop in unique ways by bridging technology, business, academics, and real world experiences.
July 2014	UC Berkeley Leadership Award - A merit-based scholarship that recognizes Cal students who demonstrate innovative, motivational leadership impacting their academic, work, or community environments.
March 2014	Regents' and Chancellor's Scholarship - The most prestigious scholarship awarded by the University of California, Berkeley to entering undergraduates.

VOLUNTEERING

2018-2019	EECS Department Delegate - Serve as a delegate on UC Berkeley's Graduate Assembly, helping draft and pass resolutions relating to graduate affairs including budget allocation, housing, and student groups.
2016-2018	Campus Outreach - Served as a mentor for prospective students to UC Berkeley through programs such as <i>EECS Day</i> , <i>Shadow a Math Major Day</i> , and <i>Regents' Overnight Stay Program</i>