

# Anthony Polloreno

email: anthony.polloreno@gmail.com

## WORK EXPERIENCE

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June 2016 - Present	<b>Junior Quantum Engineer at Rigetti Quantum Computing</b> Working on a wide variety of primarily software related tasks. These include simulating quantum circuits, assisting with quantum tomography (state, process, gate set), readout signal processing, implementing examples of quantum algorithms, and developing control software.
June-Aug 2014	<b>Undergraduate Student Instructor for CS70 at U.C. Berkeley</b> Worked as an undergraduate student instructor under James Cook for the summer offering of a course in discrete mathematics and probability in the Computer Science department. Taught a discussion section of about 10 students twice a week, held office hours, wrote homework and exam problems, and ran review sessions.
Jan-May 2014	<b>Reader for CS61A at U.C. Berkeley</b> Graded homework, tests, and projects and held office hours for the introductory Computer Science course, taught by Paul Hilfinger.

## RESEARCH EXPERIENCE

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June 2015 - Jan 2016	<b>Student Intern at Sandia National Laboratories</b> <i>Quantum Computation, Control and Error Correction</i> Did research with Kevin Young on quantum optimal control using gradient based methods (GRAPE) with noisy controls using Python. Currently work to publish results.
July 2013 - July 2015	<b>Student Assistant at Lawrence Berkeley National Laboratory</b> <i>Beamline Optics, Reflection Zone Plates</i> Worked with Dmitry Voronov to develop elliptical grating patterns called reflection zone plates which allow for more efficient beamline signal transmission in the Advanced Light Source. Used Python to generate patterns for the gratings as .cif files for use by electron beam and laser lithography machines.
Jan-May 2013	<b>Undergraduate Research Apprenticeship at U.C. Berkeley</b> <i>Animal Flight Laboratory, Hummingbird Flight</i> Worked with graduate student Marc Badger to investigate how hummingbirds navigate natural vegetation. Learned about avian flight as well as animal handling, and was introduced to basic experimentation techniques, Arduino usage, and Mathematica.

## EDUCATION

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Aug 2012 - May 2016	<b>B.A., Computer Science, Physics, and Pure Mathematics</b> University of California, Berkeley	GPA: 3.762
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## TECHNICAL COURSEWORK

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Mathematics	Real/Complex Analysis (104/185) Linear Algebra (110) Set Theory (135)	Topology (202A) Abstract Algebra (113/250A) Functional Analysis (202B)
Physics	Electricity and Magnetism (110A) Classical Mechanics (105) Thermodynamics and Statistical Physics (112)	Quantum Mechanics (137A/137B/221A) Advanced Laboratory (111A/111B)
Computer Science	Algorithms (170) Combinatorics and Discrete Probability (174) Machine Learning (189)	Computability and Complexity (172) Quantum Computing (191C/294)

(1xx: upper division, 2xx: graduate)

## SCHOLARSHIPS/AWARDS

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Dec 2014	Pomerantz Physics Scholarship
Aug 2012	U.C. Berkeley Regents' and Chancellor's Scholarship

## TALKS/POSTERS

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1. Anthony Polloreno, Nicholas Rubin, Robert Smith, and William Zeng. Random quantum circuits with varying topologies and gate sets. APS March Meeting, 2017
2. Anthony Polloreno, Nicholas Rubin, Robert Smith, and William Zeng. Random quantum circuits with varying topologies and gate sets. Southwest Quantum Information and Technology (SQUINT), 2017

## PUBLICATIONS

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1. M. Reagor, C. B. Osborn, N. Tezak, A. Staley, G. Prawiroatmodjo, M. Scheer, N. Alidoust, E. A. Sete, N. Didier, M. P. da Silva, E. Acala, J. Angeles, A. Bestwick, M. Block, B. Bloom, A. Bradley, C. Bui, S. Caldwell, L. Capelluto, R. Chilcott, J. Cordova, G. Crossman, M. Curtis, S. Deshpande, T. El Bouayadi, D. Girshovich, S. Hong, A. Hudson, P. Karalekas, K. Kuang, M. Lenihan, R. Manenti, T. Manning, J. Marshall, Y. Mohan, W. O'Brien, J. Otterbach, A. Papageorge, J. P. Paquette, M. Pelstring, A. Polloreno, V. Rawat, C. A. Ryan, R. Renzas, N. Rubin, D. Russell, M. Rust, D. Scarabelli, M. Selvanayagam, R. Sinclair, R. Smith, M. Suska, T. W. To, M. Vahidpour, N. Vodrahalli, T. Whyland, K. Yadav, W. Zeng, and C. T. Rigetti. Demonstration of universal parametric entangling gates on a multi-qubit lattice, 2017
2. S. Caldwell, N. Didier, C. A. Ryan, E. A. Sete, A. Hudson, P. Karalekas, R. Manenti, M. Reagor, M. P. da Silva, R. Sinclair, E. Acala, N. Alidoust, J. Angeles, A. Bestwick, M. Block, B. Bloom, A. Bradley, C. Bui, L. Capelluto, R. Chilcott, J. Cordova, G. Crossman, M. Curtis, S. Deshpande, T. El Bouayadi, D. Girshovich, S. Hong, K. Kuang, M. Lenihan, T. Manning, J. Marshall, Y. Mohan, W. O'Brien, C. Osborn, J. Otterbach, A. Papageorge, J. P. Paquette, M. Pelstring, A. Polloreno, G. Prawiroatmodjo, V. Rawat, R. Renzas, N. Rubin, D. Russell, M. Rust, D. Scarabelli, M. Scheer, M. Selvanayagam, R. Smith, A. Staley, M. Suska, N. Tezak, T. W. To, M. Vahidpour, N. Vodrahalli, T. Whyland, K. Yadav, W. Zeng, and C. Rigetti. Parametrically-activated entangling gates using transmon qubits, 2017