

## Frank Austin Nothaft

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### Education

#### University of California, Berkeley

Doctor of Philosophy, Computer Science. August 2013–present. GPA: 3.8.

Masters of Science, Computer Science. August 2013–May 2015. GPA: 3.8.

#### Stanford University

Bachelor of Science with Honors, Electrical Engineering. September 2007–June 2011.

Minor in Management Science & Engineering. GPA: 3.24.

### Honors

#### NSF Graduate Research Fellowship

National Science Foundation, August 2013–May 2016

#### Hugh Hildreth Skilling Award for Teaching Excellence

Stanford University Department of Electrical Engineering, June 2011

#### Departmental Honors

Stanford University Department of Electrical Engineering, June 2011

### Publications

#### *Peer Reviewed Journal Articles*

1. Benedict Paten, et al. “The NIH BD2K Center for Big Data in Translational Genomics.” In *Journal of the American Medical Informatics Association (JAMIA)*, July 2015. Invited.

#### *Peer-Reviewed Conference Proceedings*

2. Zhao Zhang, Kyle Barbary, **Frank Austin Nothaft**, Evan Sparks, Oliver Zahn, Michael J. Franklin, David A. Patterson, and Saul Perlmutter. “Scientific computing meets big data technology: An astronomy use case.” In *Proceedings of the International Conference on Big Data*, November 2015 (BigData ’15). Originally posted as *ArXiv:1507.03325*.
3. **Frank Austin Nothaft**, et al. “Rethinking data-intensive science using scalable analytics systems.” In *Proceedings of the International Conference on Management of Data*, May 2015 (SIGMOD ’15).
4. **Frank Austin Nothaft**, Luis Fernandez, Stephen Cefali, Nishant Shah, Luke Darnell, and Jacob Rael. “Pragma-based floating-to-fixed point conversion for the emulation of analog behavioral models.” In *Proceedings of the International Conference on Computer-Aided Design*, November 2014 (ICCAD ’14).
5. Krishna Malladi, **Frank Austin Nothaft**, Kartika Periythambi, Benjamin Lee, Christos Kozyrakis, and Mark Horowitz. “Towards energy-proportional datacenter memory with mobile DRAM.” In *Proceedings of the International Symposium on Computer Architecture*, June 2012 (ISCA ’12).

#### *Technical Reports*

6. Matthew Massie, **Frank Austin Nothaft**, Christopher Hartl, Christos Kozanitis, Anthony D. Joseph, and David A. Patterson. “ADAM: Genomics formats and processing patterns for cloud scale computing.” *University of California, Berkeley Technical Report UCB/EECS-2013-207*. November 2013.

Publications (con't)	<b>Theses</b>	
	<p>7. <b>Frank Austin Nothaft</b>, “Scalable genome resequencing with ADAM and avocado.” Masters Thesis, May 2015. <i>University of California, Berkeley Technical Report UCB/EECS-2015-65</i>.</p> <p>8. <b>Frank Austin Nothaft</b>, “Design strategies for compiler managed instruction stores.” Honors Thesis, Stanford University, June 2011.</p>	
Presentations	<b>Conference Talks</b>	
	<p>“Rethinking data-intensive science using scalable analytics systems.” <i>International Conference on Management of Data (SIGMOD '15)</i>, Melbourne, Australia, June 2015</p>	
	<p>“Reproducible Emulation of Analog Behavioral Models.” <i>International Conference on Computer Aided Design (ICCAD '14)</i>, San Jose, CA, November 2014</p>	
	<p>“ADAM: Fast, Scalable Genome Analysis” <i>Bioinformatics Open Source Conference (BOSC '14)</i>, Boston, MA, July 2014 <i>Spark Summit</i>, San Francisco, CA, June 2014</p>	
	<b>Invited Talks</b>	
	<p>“Fast Variant Calling with ADAM and avocado” <i>KTH Kista/SICS</i>, Kista, Sweden, February 2015</p>	
Work Experience	<p>“ADAM: Fast, Scalable Genome Analysis” <i>Human Longevity</i>, Mountain View, CA, June 2015 <i>DNANexus</i>, Mountain View, CA, December 2014 <i>Novartis Institutes</i>, Cambridge, MA, October 2014 <i>Wellcome Trust Genome Center</i>, Hinxton, UK, July 2014</p>	
	<p>“Automation For Validating Behavioral Models Against Schematics” With Nishant Shah, <i>Cadence Mixed Signal Design Summit</i>, San Jose, CA, September 2012</p>	
	<b>Broadcom, Engineer, Staff 1—IC Design</b>	<b>April 2012—present</b>
	<b>Broadcom, Engineer—IC Design</b>	<b>June 2011—April 2012</b>
	Design verification and automation for RF/mixed-signal integrated circuits	
	<b>Internships</b>	
Teaching	<b>NVIDIA, ASIC Intern</b>	<b>Summer 2010</b>
	Design validation, test, and characterization for GPU systems	
	<b>SAIC, Systems Engineering Intern</b>	<b>Summer/Winter 2008</b>
	Evaluation of technologies for high-reliability emergency telecommunications	
	<b>AJ Engineers, Inc., Electrical Engineering Intern</b>	<b>Summer 2007</b>
	Design and drafting of electrical systems for dwellings	
Teaching	<b>CS162: Operating Systems</b>	<b>Summer 2015</b>
	Course Assistant for Charles Reiss, University of California, Berkeley	

**Teaching  
(con't)**

**EE109: Digital Systems Design Lab**

**Spring 2011**

Course Assistant for Dr. James Weaver, Stanford University

**EE108A: Digital Systems Design 1**

**Fall 2009, 2010, Winter 2010, 2011**

Course Assistant for Professor Subhasish Mitra, Stanford University

**Service**

***Standards Bodies***

Co-chair, GA4GH Containers and Workflows Working Group, 2015–present

Member, GA4GH Data Working Group, 2014–present

***Conference Organization***

New Frontiers in Computing (NFIC)

*Co-Chair*, Stanford, CA, 2010

*Organizing Committee Member*, Stanford, CA, 2009

***Reviewing***

Bioinformatics Open Source Conference (BOSC), 2015

Hot Topics in Networks Workshop (HotNets), 2014

***Professional Society Leadership***

Chair, IEEE Orange County Computer Society, 2013

Vice Chair, IEEE Orange County Computer Society, 2012

Chair, Stanford University IEEE Student Branch, June 2009–June 2011

***Outreach***

Project Mentor

*Techbridge*, Oakland, CA, 2014

Panel on Careers in Science, Technology, Engineering, and Mathematics

*The Wooden Floor*, Santa Ana, CA, May 2012

***Professional Society Membership***

**IEEE:** Graduate Student Member: 2014–present, Member: 2011–2013,  
Student Member: 2007–2011

**ACM:** Member: 2011–present, Student Member: 2011

**ISCB:** Student Member: 2014–present

***Students Mentored***

*Eric Tu*, UC Berkeley, Undergraduate/Masters

*Niranjana Kumar*, UC Berkeley, Undergraduate

*Ananth Pallaseni*, UC Berkeley, Undergraduate