

# Aman Sinha

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## CONTACT INFORMATION

Electrical Engineering Department  
Stanford University  
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## EDUCATION

**Stanford University**, Stanford, CA *Sept. 2014-Present*  
*Degree:* PhD. in Electrical Engineering (expected in June 2019)

William R. Hewlett Stanford Graduate Fellowship  
Fannie and John Hertz Foundation Fellowship

Relevant coursework: Machine learning, Mining massive datasets (Hadoop), Convex optimization, Information theory, Optimal control theory, Randomized algorithms

**University of Cambridge**, Cambridge, UK *Oct. 2013-Aug. 2014*  
*Degree:* M.Phil. in Information Engineering  
Churchill Scholarship

**Princeton University**, Princeton, NJ *Sept. 2009-June 2013*  
*Degree:* B.S.E. in Mechanical and Aerospace Engineering  
*Certificates:* Applications of Computing, Applied and Computational Mathematics  
Valedictorian

**Council Rock High School North**, Newtown, PA *Aug. 2005-June 2009*  
Valedictorian

## RESEARCH AND WORK EXPERIENCE

**Information Systems Lab**, Stanford University *Sept. 2014-Present*  
*Researcher* (Advisors: John Duchi, Nick Bambos)

- Researching a combination of theoretical and applied problems in convex analysis applied to machine learning and optimization
- Projects include: proving convergence of coordinate descent with coupled constraints, minimizing viral propagations in large networks, building nanoscale lenses, and classifying diseased populations with accelerometry data

**Creasys, LLC** *July 2013-Present*  
*Founder, President*

- Founded startup to develop mobile productivity apps
- TeXscribe (currently available for iOS) converts handwriting to LaTeX and lets users store their work in the cloud. More info available at [www.texscribe.me](http://www.texscribe.me).

**Quantifind**, Menlo Park, CA *June-Sept. 2016*  
*Data Scientist*

- Startup offers explanatory analytics solutions targeted towards marketing. See [quantifind.com](http://quantifind.com).
- Developed algorithms that discover language patterns in Twitter data correlating with brand revenue

**Control Group & Machine Learning Group**, University of Cambridge *Oct. 2013-Aug. 2014*  
*Researcher* (Advisors: Glenn Vinnicombe, Carl Rasmussen)

- Researched distributed machine learning over networks.
- Developed techniques to characterize and improve the robustness and accuracy of Gaussian process regression in distributed systems.

**Dynamical Control Systems Laboratory**, Princeton University *Oct. 2012-May 2013*  
*Undergraduate Researcher* (Advisor: Naomi Leonard)

- Researched consensus dynamics in multi-agent systems.
- Studied techniques by which local utility maximization by agents leads to global consensus in tracking a noisy reference signal.

**Microsoft Online Services Division: adCenter**, Microsoft (Bellevue, WA) *June-Aug. 2012*  
*Software Development Engineering Intern* (Manager: Dragos Barac)

- Worked with the adCenter Delivery Engine team.
- Developed a device detection and identification feature to enable the intelligent delivery of ads to mobile and tablet devices in Bing search requests.

**Complex Fluids Group**, Princeton University *Sept. 2011-Jan. 2012*  
*Undergraduate Researcher* (Advisors: Howard Stone, Roseanna Zia)

- Studied nonlinear fluctuations of a Brownian particle in a colloidal suspension in the presence of solvent-mediated, hydrodynamic interactions between particles.

**Merck Research Labs: Imaging Dept.**, Merck & Co. (West Point, PA) *June-Aug. 2011*  
*Intern* (Manager: Dinko Gonzalez Trotter)

- Developed software for the automated segmentation and registration of medical images used in preclinical trials of drug development.

**Gas Dynamics Laboratory**, Princeton University *June-Aug. 2010*  
*Intern* (Advisor: Alexander Smits)

- Researched the three-dimensional nature of large-scale motions in fully turbulent pipe flow

PAPERS

Sinha, A., and Duchi, J. Learning kernels with random features. *NIPS*, 2016.

Sinha, A., Duchi, J, and Bambos, N. Dynamic management of network risk from epidemic phenomena. *IEEE Conference on Decision and Control*, 2015.

Sinha, A. Distributed gaussian process regression in networked systems. *University of Cambridge M.Phil. Thesis*. August 2014.

Sinha, A. Distributed consensus protocols in adaptive multi-agent systems. *Princeton University Senior Thesis*. May 2013.

Hellström, L., Sinha, A., and Smits, A. Visualizing the very-large-scale motions in turbulent pipe flow. *Physics of Fluids*, 23:011703, 2011.

TALKS

Sinha, A. A numerical toolkit for automated segmentation and registration. *Presented at Merck Imaging Department*. August 2011.

Sinha, A. Using riblets for airfoil drag reduction: a CFD analysis. *AAAS National Conference*. Chicago, Feb. 2009.

HONORS AND AWARDS

Numerical Technologies Founders Prize (for top rank in PhD Qualifying Exam)	<i>Feb. 2015</i>
William R. Hewlett Stanford Graduate Fellowship	<i>Nov. 2014</i>
Elected as Valedictorian for Princeton’s Class of 2013	<i>Apr. 2013</i>
Fannie and John Hertz Foundation Fellowship	<i>Apr. 2013</i>
Churchill Scholarship	<i>Jan. 2013</i>
Elected to the Phi Beta Kappa Society, Princeton Chapter	<i>Sept. 2012</i>
Class of 1939 Princeton Scholar Award for highest ranked senior	<i>Sept. 2012</i>
Barry M. Goldwater Scholarship	<i>Mar. 2012</i>
Elected to the Tau Beta Pi Engineering Honor Society, Princeton Chapter	<i>Nov. 2011</i>
National Merit Scholarship	<i>Apr. 2009</i>
3-time Medalist at PA Junior Academy of Science State Competition	<i>May 2007, 2008, 2009</i>

TECHNICAL SKILLS AND PROFICIENCY

**Operating Systems and Frameworks:** Mac OS X, Unix/Linux, Windows, Django, AWS  
**Languages:** Java, C, C++, C#, Objective-C, Python, SQL, Assembly (IA-32), Fortran  
**Applications:** MATLAB, Mathematica, Xcode, Gridgen, TecPlot, Pro/E, SolidWorks, Visual Studio