

Suruchi Fialoke

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Objective Computational scientist with 5 years experience in cluster computing, statistics, data analysis and visualization. Passionate about using computational methods to solve science & engineering problems.

Education **University of Pennsylvania** June 2017
Ph.D. candidate, Chemical and Biomolecular Engineering GPA 3.94/4.0
Indian Institute of Technology (IIT), Kharagpur June 2012
B.Tech, M.Tech dual degree, Chemical Engineering GPA 8.9/10 (Graduated with Honors)

Skills C & C++, Python, MATLAB, Bash, Cluster computing ★★★★★★★★★★
R, HTML/CSS, SQL ★★★★★☆☆☆☆☆
LaTeX, Git, VMD, POV-ray, CAD, Photoshop, Gnuplot, ggplot, ImageMagick, GROMACS ★★★★★★★★★★

Courses Data Analysis and Statistical Computing (UPenn, STAT503), Machine Learning (Stanford, Coursera), Data Science Toolbox (John Hopkins, Coursera), Python (UMich, Coursera), Process Improvement (UIUC, Coursera)

Experience **Ph.D. Candidate, University of Pennsylvania, PA, USA** Sept 2012 – Present
Dissertation: Computational Design of Non-Sticky Surfaces Advisor: Dr. Amish Patel

- Developed computational studies [GROMACS, C++, Bash, Python] to explore design principles of non-sticky materials
- Developed algorithms [C++, Python] to analyze gigabytes of data to extract physical quantities e.g. free energy of drying
- Visualized drying at molecular level & proposed novel surfaces that display non-sticky behavior under extreme conditions
- Led collaborations with experimentalists and with group at leading consumer goods company to realize proposed designs

Research Assistant, Indian Institute of Technology (IIT) Kharagpur, WB, India Jul 2009 – Jun 2012

- Patented lithographic technique for creating textures of different feature heights using single polymeric stamp

Research Intern, University of Akron, OH, USA May 2011 – July 2011

- Studied topography of polymer films in presence of nanoparticles; received invitation to PhD position with fellowship

Research Intern, University of Auckland, New Zealand May 2010 – July 2010

- Identified difference between normal and arthritis affected cow-knee-cartilage by modeling stress response; proposed criteria for arthritis in humans [Supervised Machine Learning, MATLAB], received invitation to PhD position

Leadership **Student Consultant, Penn Biotech Group, Wharton Business School** 2016-Present
Activities Voted best team member in 9-member team, provide marketing/distribution strategies to \$28B+ medical device company
Member, Penn Data Science Group, University of Pennsylvania 2016-Present

- Active participant in various projects involving Machine Learning and Data Mining

Presented research in 18 international and local conferences (including AIChE, GRC & ACS) 2012-16
Teaching Assistant (2 Courses), University of Pennsylvania 2013-14

- Delivered MATLAB & SIMULINK tutorials for graduate level course, Introduction to Numerical Methods (ENM502)

Co-Founder and Advisor, Students' Alumni Cell, IIT Kharagpur 2009-12

- Editor of newsletters & magazines, designed web portal, launched brand merchandise with e-commerce company

Publications & Patent

- Suruchi Prakash et. al. Spontaneous recovery of superhydrophobicity on nanotextured surfaces, **Proceedings of the National Academy of Sciences of the United States of America**, 113, 5508-5513 2016
- Nandini Bhandaru, Suruchi Prakash, et. al., Lithographic tuning of polymeric thin film surfaces by stress relaxation **ACS Macro Letters**, 2, 195-200 2013
- Patent:** Method for generation of surface patterns with different feature heights in polymer films coated on planar and non planar surfaces using single stamp Ref: 607/KOL/2012