Prashant Pandey

ACADEMIC INTEREST	My research interests lie at the intersection of Systems and Algorithms. **Expertise**: Data Structures and Algorithms for big data problems in Computational Biology, Databases, and File Systems.

CONTACT INFORMATION	165 5th Street	E-mail:ppandey@cs.stonybrook.edu
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	Google Scholar	goo.gl/zg9oYg

EDUCATION

Stony Brook University, Stony Brook, NY   Expected Graduation: December 2018
PhD, Computer Science   *GPA (3.8/4.0)*
Advisors: Prof. Michael Bender and Prof. Rob Johnson

University of Pune, Pune, India   August 2007 - June 2011
Bachelor of Engineering, Information Technology

WORK EXPERIENCE

Stony Brook University, Stony Brook, NY   August 2013 - Present
Research Assistant, Applied Algorithms Lab
Google, Manhattan, NY   May 2017 - August 2017
Research Intern, Google Spanner
Google, Kirkland, WA   May 2016 - August 2016
Research Intern, Google Could Infrastructure
Intel Labs, Portland, OR   May 2015 - August 2015
Research Intern, Security and Privacy Lab
Intel Labs, Portland, OR   May 2014 - August 2014
Research Intern, Security and Privacy Lab
TIBCO Inc., Pune, India   July 2011 - June 2013
Software Developer, Cloud Platform

AWARDS AND ACHIEVEMENTS

- Catacosinos Fellow   2018
- Best Paper Award FAST 2016   2016
- Runner's Up to Best Paper FAST 2015   2015
- A Special CS Department Chair Fellowship, Stony Brook University   2013
- University Rank Holder, University of Pune   2011
- Academic Excellence Scholarship, University of Pune.   2009, 2010, 2011

PRESS ARTICLES ON RESEARCH

A general purpose counting filter: making every bit count. The Morning Paper. August 2017.
Link: https://blog.acolyer.org/2017/08/08/a-general-purpose-counting-filter-making-every-bit-count/

PUBLICATIONS

Mantis: A Fast, Small, and Exact Large-Scale Sequence-Search Index *RECOMB 2018*
Cell Systems 2018
Prashant Pandey, Fatemeh Almodaresi, Michael A. Bender, Michael Ferdman, Rob Johnson, and Rob Patro

Rainbowfish: A Succinct Colored de Bruijn Graph Representation *WABI 2017*
Fatemeh Almodaresi, Prashant Pandey, and Rob Patro

deBGR: An Efficient and Near-Exact Representation of the Weighted de Bruijn Graph
ISMB 2017 BIOINFORMATICS 2018
Prashant Pandey, Michael A. Bender, Rob Patro, and Rob Johnson

Squeakr: An Exact and Approximate k-mer Counting System *BIOINFORMATICS 2017*
Prashant Pandey, Michael A. Bender, Rob Patro, and Rob Johnson

A General-Purpose Counting Filter: Making Every Bit Count *SIGMOD 2017*
Prashant Pandey, Michael A. Bender, Rob Patro, and Rob Johnson

A Fast x86 Implementation of Select *arxiv 2017*
Prashant Pandey, Michael A. Bender, and Rob Johnson

Writes Wrought Right, and Other Adventures in File System Optimization *TOS 2016*
Jun Yuan, Yang Zhan, William Jannen, Prashant Pandey, Amogh Akshintala, Kanchan Chandnani, Pooja Deo, Zardosht Kasheff, Michael Bender, Martin Farach-Colton, Rob Johnson, Bradley C. Kuszmaul, and Donald E. Porter

Optimizing Every Operation in a Write-Optimized File System *FAST 2016*
Jun Yuan, Yang Zhan, William Jannen, Prashant Pandey, Amogh Akshintala, Kanchan Chandnani, Pooja Deo, Zardosht Kasheff, Michael Bender, Martin Farach-Colton, Rob Johnson, Bradley C. Kuszmaul, and Donald E. Porter [**Best Paper Award**]

BetrFS: Write-Optimization in a Kernel File System *TOS 2015*
William Jannen, Jun Yuan, Yang Zhan, Amogh Akshintala, John Esmet, Yizheng Jiao, Ankur Mittal, Prashant Pandey, Phaneendra Reddy, Leif Walsh, Michael A. Bender, Martin Farach-Colton, Rob Johnson, Bradley C. Kuszmaul, and Donald E. Porter

BεtrFS: A Right-Optimized Write-Optimized File System *FAST 2015*
William Jannen, Jun Yuan, Yang Zhan, Amogh Akshintala, John Esmet, Yizheng Jiao, Ankur Mittal, Prashant Pandey, Phaneendra Reddy, Leif Walsh, Michael A. Bender, Martin Farach-Colton, Rob Johnson, Bradley C. Kuszmaul, and Donald E. Porter [**Runner up to Best Paper**]

PATENT
APPLICATIONS

Instructions that Facilitate the Implementation of the Fork System Call in Processes using Software Guard Extensions *Mar 2015*
Prashant Pandey, Mona Vij, Somnath Chakrabarti, Krystof C. Zmudzinski

Apparatus and Method For Implementing a Forked System Call in a System with a Protected Region *Mar 2015*
Prashant Pandey, Mona Vij, Somnath Chakrabarti, Krystof C. Zmudzinski

INVITED TALKS

Compact Representation of Annotated de Bruijn Graphs
Berkeley Lab, Berkeley CA, Jan 2018

deBGR: An Efficient and Near-Exact Representation of the Weighted de Bruijn Graph
Google Research, NY, Sep 2017
VMWare Research, Palo Alto CA, Aug 2017

Intel Software Guard Extensions (SGX)
Sandia National Laboratories, Livermore CA, Aug 2015

CONFERENCE
TALKS

Mantis: A Fast, Small, and Exact Large-Scale Sequence-Search Index
RECOMB 2018, Paris, France

Scheduling Problems in Write-Optimized Key-Value Stores
New Challenges in Scheduling Theory 20018, Aussois, France

deBGR: An Efficient and Near-Exact Representation of the Weighted de Bruijn Graph
ISMB 2017, Prague, Czech Republic

A General-Purpose Counting Filter: Making Every Bit Count
SIGMOD 2017, Chicago, IL

TEACHING
EXPERIENCE

Teaching Assistant, CS Dept, Stony Brook University
- CSE 548: Analysis of Algorithms   *Fall 2015*
- CSE 535: Asynchronous Systems   *Fall 2015*
- CSE 110: Introduction to Computer Science (Advanced Java)   *Spring 2014*
- CSE 110: Introduction to Computer Science (Advanced Java)   *Fall 2013*