

DANIEL ALABI

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EDUCATION

Harvard University , Cambridge, MA Ph.D. Computer Science	<i>2016 - 20xx</i>
Columbia University , New York, NY Graduate Student, Computer Science	<i>2015 - 2016</i>
Aquincum Institute of Technology , Budapest, Hungary Visiting Student, Computer Science	<i>Fall 2012</i>
Carleton College , Northfield, MN B.A. Computer Science B.A. Mathematics Graduated <i>Magna Cum Laude</i>	<i>2010 - 2014</i>

HONORS & AWARDS

United States Achievers Program (USAP) Fellow	2009-2010
Kellogg International Scholarship (Full Funding)	2010-2014
hackNY Fellow	2012
Member, Mortar Board College Senior Honor Society	2013
Interact Fellow	2015
Travel Awards: SIGMOD HILDA 2016	

RELEVANT WORK EXPERIENCE

Graduate Research Assistant, Harvard University 09/2016-Present

- Under supervision by Margo Seltzer (Harvard), Cynthia Rudin (Duke), and Elaine Angelino (Berkeley), I have been involved in a project on finding rule lists that are provably optimal, or close to optimal.
- I have been working on a new research project on Stochastic Kronecker Graph models that do not produce unwanted oscillations in the degree distributions of generated graphs.

Graduate Research Assistant, Columbia University 08/2015-08/2016

- Under supervision by **Eugene Wu**, I did research on how to construct and use perceptual models for approximate query processing.
- Investigated use of bitmap indices for stratified sampling while minimizing candidate check costs.
- Under supervision by **Chris Wiggins**, I built tools to help academics/researchers commercialize their research.

Database Kernel Engineer, MongoDB Inc. 06/2014-07/2015

- *Distributed Systems Team*: Worked on deploying config servers for a sharded cluster as a replica set (release 3.2). Added the specification of a writeConcern to the atomic findAndModify command. Made replication oplog entry mechanism rollback-safe.
- Mentored an intern project to create a **MongoDB Driver for Rust 1.0**. Redesigned and rewrote mongofiles (in standard MongoDB distro) from scratch.

Software Engineering Intern, MongoDB Inc. 06/2013-08/2013

- Created new Apache Hive input and output formats for MongoDB reads/writes

· Made it possible to update MongoDB documents from Apache Pig scripts

Software Engineering Intern, Trendrr (acquired by Twitter, Inc.) 06/2012-08/2012

Research Assistant, Academic Technologies, Carleton College 10/2010-07/2012

PUBLICATIONS

1. Learning Certifiably Optimal Rule Lists for Categorical Data.
Elaine Angelino, Nicholas Larus-Stone, Daniel Alabi, Margo Seltzer, and Cynthia Rudin.
KDD 2017. [Arxiv Version](#).
Selected for oral presentation (8.5% acceptance rate)
2. **PFunk-H: Approximate Query Processing using Perceptual Models.**
Daniel Alabi and Eugene Wu.
HILDA@SIGMOD 2016.

TEACHING EXPERIENCE

Teaching Assistant, CS 201: Data Structures 01/2014 - 06/2014

Winter 2014 (Prof. Jadrian Miles); Spring 2014 (Prof. Amy Dalal)

Teaching Assistant, CS 111: Introduction to Computer Science 09/2013 - 11/2013

Fall 2013 (Prof. Andy Exley)

LEADERSHIP & SERVICE

International Student Peer Leader, Carleton College 2011-2012

President, Carleton Computing Society 2011-2013

Student Department Advisor for the CS Department at Carleton College 2013-2014

Citizen Schools Volunteer Instructor 2015

Judge, CarlHacks 2015

Mentor, hackNY Summer Fellowship 2015, 2016

RELEVANT COURSEWORK

Harvard University, Cambridge, MA

Advanced Algorithms; Online Convex Optimization; Algorithms at the End of the Wire; Research Topics in Operating Systems

Columbia University, NYC

Analysis of Algorithms I; Algorithmic Techniques for Massive Datasets; Statistical Machine Learning; Elementary Stochastic Processes; Database Systems Implementation

Aquincum Institute of Technology (Study Abroad), Budapest, Hungary

Combinatorial Optimization; Graph Theory; Algorithms & Data Structures

Carleton College, Northfield, MN

Artificial Intelligence; Natural Language Processing; Advanced Algorithms; Operating Systems; Programming Languages; Data Mining; Computability & Complexity; Computer Organization & Architecture; Database Systems; Software Design; Mobile Application Development; Computer Music & Sound; Algorithms; Statistical Inference; Probability; Elementary Theory of Numbers; Abstract Algebra; Ordinary Differential Equations; Linear Algebra; Mathematical Structures; Multivariable Calculus