

Richard Matthew McCutchen

<https://mattmccutchen.net/>, matt@mattmccutchen.net

(Please email me if you need my phone number or postal address.)

RESEARCH INTERESTS

Develop and promote adoption of tools to make fundamental computing tasks (particularly programming) as easy as they conceptually can be for a wide range of users.

RESEARCH EXPERIENCE

- 9/2014–present **Ph.D. student in computer science** in the Software Design Group, **Massachusetts Institute of Technology**. Developing Object Spreadsheets (<https://sdg.csail.mit.edu/projects/objsheets/>), a spreadsheet tool with support for structured data to facilitate end-user development of data-centric web applications (paper in Onward! 2016).
- 6/2017–8/2017 Internship at Microsoft Research. Prototyped a spreadsheet extension with Andy Gordon's team (details not yet public).
- 5/2016–8/2016 Internship at Microsoft Research. Built a lightweight verification framework for web-based single sign-on implementations (<https://github.com/cs0317/svAuth/>) with Shuo Chen and Shaz Qadeer (short paper in IEEE SecDev 2016).
- 1/2006–9/2008 **Algorithms research** with Samir Khuller, University of Maryland:
- 6/2008–9/2008
- Developed software to match papers to reviewers, which was later used for POPL 2012. See <https://mattmccutchen.net/match/>.
- 8/2008
- Presented a paper (with Samir Khuller) on streaming algorithms for clustering very large sets of points at APPROX 2008. See <https://mattmccutchen.net/clustering/>.
- 4/2008
- Presented a paper on matching of people to positions with one-sided preferences at LATIN 2008. See <https://mattmccutchen.net/lumc/>.

WORK EXPERIENCE

- 6/2015–8/2015 Internship with Microsoft Tools for Software Engineers team. Implemented and tested a concurrent protocol to migrate a data set while applications are accessing it, as a case study of the P# systematic concurrency testing tool. (<https://github.com/mattmccutchen/MigratingTable>, paper in FAST 2016.)
- 9/2011–8/2014 **Software engineer at Google**.
- 5/2012–8/2014
- Web Search SRE (production) team. On call, and extended Python-based system deployment tools to automate more steps of the process.
- 1/2012–5/2012
- Google Programmable Ads. Developed and maintained large integration tests in Python.
- 9/2011–1/2012
- AdWords front end. Completed two internal code migrations (Java).

EDUCATION

- 8/2007–5/2011 B.S. in computer science and mathematics, University of Maryland College Park. University Honors Program, Banneker/Key scholarship. GPA 3.974. Graduate-level coursework including approximation algorithms, software verification, theory of programming languages, software security.

OTHER PROJECTS

- 9/2010–1/2012 Contributed to IETF standardization of DNSSEC-based designation of TLS server certificates (<https://tools.ietf.org/wg/dane/>).

9/2005–3/2010 Contributed to rsync (<http://rsync.samba.org/>), a versatile open-source file-copying tool, and provided expert advice and clever solutions to users.

HONORS

4/2014 **National Science Foundation Graduate Research Fellowship.**
4/2009, 2/2010 ACM Intercollegiate Programming Contest World Finals: 20th place, 14th place (University of Maryland team).
11/2009 Computing Research Association Outstanding Undergraduate Research Award.
8/2005, 8/2006, **International Olympiad in Informatics:** gold medal 2007 and 2005, silver medal 2006.
8/2007
1/2007 Finalist, 2007 Intel Science Talent Search.

General-purpose résumé, version 2018-01-02

Latest version: https://mattmccutchen.net/McCutchen_resume.pdf

Additional resources: <https://mattmccutchen.net/meta.html>