

DANIEL PERELMAN

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Education

- **University of Washington**—Seattle, WA
Ph.D. in Computer Science and Engineering
 - Advisors: Dan Grossman and Sumit Gulwani (Microsoft Research)
 - Thesis: *Program Synthesis Without Full Specifications for Novel Applications*
 - Graduated June 2015
- **Cornell University College of Arts & Sciences**—Ithaca, NY
B.A. in Computer Science and Mathematics
 - GPA: 3.8 (overall), 4.1 (CS major), 4.0 (Math major)
 - Graduated May 2010

Publications

- **Daniel Perelman**, Sumit Gulwani, Dan Grossman, Peter Provost. *Test-Driven Synthesis*, Edinburgh, UK, PLDI 2014.
- Nikolai Tillmann, Judith Bishop, R Nigel Horspool, **Daniel Perelman**, Tao Xie. *Code Hunt: Searching for Secret Code for Fun*, Hyderabad, India, SBST 2014.
- **Daniel Perelman**, Sumit Gulwani, Thomas Ball, Dan Grossman. *Type-Directed Completion of Partial Expressions*, Beijing, China, PLDI 2012.

Research interests

- **Program Synthesis for Data Wrangling**—Microsoft PROSE team
2015–present
 - Developing technologies to enable non-programmer end-users to get their semi-structured data into machine-usable forms for understanding their data and applying machine learning to it.
- **Automating Grading**—Sumit Gulwani, Judith Bishop, Dan Grossman
2014–2015
 - Used TDS technology to create hints system for programming game CodeHunt.
 - Continuing to improve technology for applications to feedback for introductory computer science education.
- **Test-Driven Synthesis**—Sumit Gulwani, Dan Grossman
2012–2015
 - Developed theory and implementation of a general-purpose program synthesis technique inspired by Test Driven Development.
- **Code completion**—Sumit Gulwani, Thomas Ball, Dan Grossman
2010–2012
 - Developed partial expressions language for API discovery.
 - Implemented Visual Studio plug-in for using partial expressions for API discovery in real projects (<https://pec.codeplex.com/>).

Experience

- **Microsoft**—Redmond, WA
Research Software Engineer: July 2015–present
 - Worked on PROSE (PROgram Synthesis using Examples) team developing program synthesis algorithms and performing engineering work to productize them.
- **University of Washington**—Seattle, WA
Research Assistant: September 2010–June 2015
 - Worked on code completion and Test-Driven Synthesis projects described above.
- **Microsoft Research**—Redmond, WA
Research Intern: June 2013–August 2014
 - Worked on Test Driven Synthesis and Automating Grading projects described above.
 - Scaled up technology to use in Code Hunt educational game using Azure.
- **Microsoft Research**—Redmond, WA
Research Intern: June 2012–September 2012
 - Developed Test Driven Synthesis project described above.
- **University of Washington Dept. of Computer Science and Engineering**—Seattle, WA
Teaching Assistant: September 2010–March 2011
 - Graded, held office hours, and taught some lectures for Introduction to Algorithms and Foundations of Computing.

Skills

- **Languages:** C#, Java, Python, Haskell, OCaml, Bash, PHP, Javascript, Scala, C++, C, assembly (x86, ARM, 65c816)
- **Technologies:** Azure, MySQL, PostgreSQL, Django, Apache, IIS, L^AT_EX, Git, Mercurial, Subversion