

# MATTHEW DIPPEL

## CONTACT INFORMATION

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## WORK EXPERIENCE

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| FALL 2017   | Temp Software Developer Engineer at AMAZON.COM<br>Boston, MA<br>Studying the behaviorally defined query to product matching used to help complete non existing query to product matchings. Developing tools and metrics to assist in the detection of false positives in query to product completion.  |
| SUMMER 2017 | Portfolio Analyst Intern at ACADIAN ASSET MANAGEMENT<br>Boston, MA<br>Developed and implemented mathematical models of broker performance for asset trades in Python. Implemented statistical methods to confirm the viability of various models, and implemented Monte Carlo simulations to test strategies for allocating asset trades to brokers. |
| SUMMER 2016 | Software Engineer Intern at AKAMAI TECHNOLOGIES<br>Cambridge, MA<br>Developed a Java library for interacting with Akamai's Query system, a distributed system for getting and aggregating live data from Akamai's network. Developed JQCL, a Java command line tool for interacting with Query.  |
| SUMMER 2015 | Software Engineer Intern at AKAMAI TECHNOLOGIES<br>Cambridge, MA<br>Studied and prototyped distributed hash tables using the Python Twisted framework. Implemented automated deployment and testing onto a set of virtual machines using Bash and Python.  |
| SUMMER 2014 | Network Scientist Intern at RAYTHEON BBN TECHNOLOGIES<br>Cambridge, MA<br>Researched properties and algorithms for multilayer networks. Implemented algorithms in a Python framework and applied to European Air Traffic Networks and Global Air Traffic Networks. Resulted in a publication on our work at ASONAM 2015.                             |
| SUMMER 2013 | Software Engineer Intern at CIPHER TECH SOLUTIONS<br>Boston, MA<br>General software development in Python and Java under an NDA.   |

## EDUCATION

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| SEP 2013 | PhD in COMPUTER SCIENCE, <b>Northeastern University</b> , Boston MA<br><i>Current</i> Advised by Professor Ravi Sundaram |
| SEP 2009 | B.S. in MATHEMATICS and COMPUTER SCIENCE   |
| MAY 2013 | GPA: 3.7/4, <b>Rensselaer Polytechnic Institute</b> , Troy NY  |

## TEACHING & COACHING

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| FALL 2015                             | <b>CS 5800: Algorithms</b> , NORTHEASTERN UNIVERSITY, Boston MA<br>Teaching Assistant for the university's Masters level algorithms course. Created assignments, quizzes, and exams, and designed multiple unique algorithmic programming assignments for the semester.  |
| SPRING 2017<br>FALL 2014<br>FALL 2013 | <b>CS 4800: Algorithms and Data</b> , NORTHEASTERN UNIVERSITY<br>Boston MA<br>Teaching Assistant for several semesters for the university's undergraduate algorithms course. Gave lectures, graded exams, and designed unique programming assignments for each semester. |
| 2016 - PRESENT                        | <b>Coach for NEU ICPC Team</b><br>Coached Northeastern University teams to compete in the International Collegiate Programming Contest. Organized practices and training sessions. Brought a team to the NA Northeast Regional Finals in 2016 and 2017.                  |

## PROGRAMMING LANGUAGES & LIBRARIES

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| EXPERIENCED:  | Java, Python, Bash<br>pandas in Python, NetworkX in Python |
| PROFICIENT:   | C, C++, Racket   |
| KNOWLEDGABLE: | C#   |

## PUBLICATIONS

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### **Markovian Hitters and the Complexity of Blind Rendezvous**

with Sixia Chen, Alexander Russell, Abhishek Samanta, and Ravi Sundaram  
SODA 2016

### **An Upper Bound on Trilaterating Simple Polygons**

with Ravi Sundaram  
CCCG 2015

### **Multiplex Networks: A Generative Model and Algorithmic Complexity**

with Prithwish Basu and Ravi Sundaram  
ASONAM 2015