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Work Experience

Microsoft Research Cambridge UK

Research Intern • May 2014 – August 2014, May 2015 – August 2015

- Innovated and developed a data-driven approach to attack surface estimation
- Supported optimization efforts in software engineering management for internal Microsoft teams.

Self Employed

Freelance Work • August 2012 - Present

- Supported startups in the Cincinnati and Columbus areas in various capacities; entry into tech incubators, course correction on flagging projects, et cetera.
- Technical assistant to computational chemistry lab at the University of Cincinnati (development in C/Python, code reviews, troubleshooting, bug fixes).
- Acted as expert witness for a Raleigh-based company, helping to settle multi-million dollar lawsuit.

Northrop Grumman - Xetron

Software Engineer • June 2010 – August 2012

- Individual classified tasking in network security and software engineering.
- Responsible for multiple investigations into new reverse engineering targets.
- Drove customer satisfaction from Satisfactory to Outstanding while in a customer-facing position.
- Provided on-site and remote technical assistance to customers in technical and non-technical roles.

Software Engineer (Co-op) • March 2009 - September 2009

• Lead a team in developing a custom automated testing framework.

Siemens PLM Software

Software Engineer (Co-op) • March 2007 - September 2007, March 2008 - September 2008

- Acted as go-between for software developers and customers; use cases, simple bug fixes, etc.
- Developed scalability tests for servers to estimate server usage for CAD software (NX, SolidEdge).

Education

North Carolina State University • PhD in Computer Science: August 2013 – Present • GPA: 3.87 Research Assistant • Spring 2014 – Present

- Designed course material for an online course on software security featuring over 1,000 students.
- Developed Risk Based Attack Surface Approximation (RASA) an approach for locating vulnerable code.
- Published eight conference and journal papers, including award-winning submissions.
- Mentored two undergraduate students during their first research experience in academia
- Invited to give presentations at conferences and meetings: Carnegie Mellon, ISSRE, among others.

Teaching Assistant • Software Security – Fall 2013, Fall 2014, Fall 2016

- Designed penetration testing and secure design assignments for the class.
- Lectured on multiple occasions on software security topics to classes of 100+ students.

North Carolina State University • Master of Science in Computer Science: May 2016 • GPA: 3.87

Received Master's degree en route during PhD studies.

University of Cincinnati • Bachelors of Science in Computer Science: Graduated June 2010 • GPA: 3.7

• Senior design project; a ranking, sorting, and categorization system for Twitter.

Skills/Achievements

- Languages: C, C#, Python, batch/bash scripting, some Ruby/Rails, some Java, some Javascript.
- Data Technologies: SciPy, NumPy, Scikit Learn, D3.js, MSSQL, some R, some SAS products.
- 1st Place Graduate Students Student Research Competition (SRC) at FSE/ESEC 2015.
- 3rd Pace Graduate Students SRC Grand Finals (included all winners of SRC's at all ACM conferences).
- Most Outstanding Co-op Computer Science Class of 2010.
- Marine Leadership Award for leadership in the classroom May 2008.