Danielle Stewart

CV

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Education

2016–present **Ph.D. Student in Computer Science**, *University of Minnesota - Twin Cities*, Minneapolis, MN, USA, Critical Systems Research Group.
Advisors: Dr. M. Heimdahl and Dr. M. W. Whalen

2013–2015 **Master in Mathematics**, *University of Minnesota, Duluth*, Duluth, MN, USA, Thesis: Even Harmonious Labelings of Disconnected Graphs.
Advisor: Dr. J. Gallian

2011–2013 **Bachelor in Mathematics**, *University of Minnesota, Duluth*, Duluth, MN, USA, Thesis: Generation of Pseudoprimes.
Advisor: Dr. J. Greene

2008–2011 **Associate of Arts**, *Lake Superior College*, Duluth, MN, USA.

1998–2002 **High School Diploma**, *Bemidji High School (Homeschooled)*, Bemidji, MN, USA.

Research Interests

Safety analysis of systems, model based safety analysis, cyber-security, safety analysis applied to cyber-security, software verification, formal methods, model checking, model-based development, dependable and secure software development, software testing.

Work Experience

Dec. 2017–April 2018 **Formal Methods Consulting**, *Stottler Henke Associates, Inc.*
Applied compositional analysis verification using AGREE to a critical systems aviation project.

Sept. 2017–present **Course Development**, *Coursera: Software Engineering*.
Assisted in course organization, exams, quizzes, and other course development activities.

Dec. 2016–present **Research Assistant**, *Critical Systems Group, University of Minnesota*.
Research in safety analysis for the NASA AMASE project.

Aug. 2015–May. 2016 **Instructor**, *University of Minnesota, Duluth: Dept. of Maths*.
Instructor for Differential Equations, College Algebra, and Algebra I-II.

Aug. 2015–May. 2016 **Teaching Assistant**, *University of Minnesota, Duluth: Dept. of Maths*.
Teaching assistant for Elementary Real Analysis, Calculus II, and Approximation & Quadrature.

Publications

[1] Danielle Stewart, Michael W Whalen, Darren Cofer, and Mats Heimdahl. Architecture modeling and analysis for safety engineering. In *IMBSA2017: 5th International Symposium on Model-Based Safety and Assessment*, 2017.

[2] Joseph A. Gallian and Danielle Stewart. Even harmonious labelings of disjoint graphs with a small component. *AKCE International Journal of Graphs and Combinatorics*, 12(2):204 – 215, 2015.

[3] Joseph A. Gallian and Danielle Stewart. Properly even harmonious labelings of disconnected graphs. *AKCE International Journal of Graphs and Combinatorics*, 12(2):193 – 203, 2015.

[4] Joseph Gallian and Danielle Stewart. Properly even harmonious labelings of disjoint unions with even sequential graphs. *Journal of Graph Labelings*, 1(1), 2015.

Presentations

- Critical Systems Research, Code Freeze 2018, January, Minneapolis, MN, USA
- Architectural Modeling and Analysis for Safety Engineering, IMBSA 2017, Trento, Italy
- Properly Even Harmonious Graphs, IWOCA 2014, October, Duluth, MN, USA

Honors and Awards

2016 Awarded College of Science and Engineering Graduate Fellowship, University of Minnesota

2015 SCSE Outstanding Teaching Assistant Award, University of Minnesota, Duluth

2016 UMD Mathematics Departmental Teaching Assistant Award, University of Minnesota, Duluth

2014 Summer Research Fellowship, Dept. of Mathematics, University of Minnesota, Duluth

2013 Undergraduate Research Opportunities Grant, University of Minnesota, Duluth

2013 Duane E. Anderson Memorial Fellowship, University of Minnesota, Duluth

2012–2014 Pi Mu Epsilon Honor Society, University of Minnesota, Duluth: Dept. of Mathematics

2011–2012 Martha Lahti Scholarship, University of Minnesota, Duluth

2010 Student of the Year Award, Lake Superior College, Duluth, MN

2009 Student of the Year, Biology Dept. Award, Lake Superior College, Duluth, MN

Professional Activities

Peer Reviewer

- FM 2018: International Symposium on Formal Methods
- NFM 2018: 10th NASA Formal Methods Symposium
- ASE 2017: 32nd IEEE/ACM International Conference on Automated Software Engineering
- SETTA 2017: 3rd Symposium on Dependable Software Engineering
- MEMOCODE 2017: 15th International Conference on Formal Methods and Models for System Design

Service

- Graduate Council Student Representative, University of Minnesota, Duluth: 2014-2015

Selected Course Projects

- Sequent Calculus Proof Checker (OCaml)
  - Topics in Computation and Deduction, 2016
- Device Driver for Linux OS
  - Operating Systems Course, 2016
- Phishing Detection Using Natural Language Processing Techniques
  - Computer Security Course, 2016
- Lexer, Parser, Evaluator, and Type-Checker for Imperative Language in OCaml
  - Programming Languages Course, 2014

Computer skills

Programming Languages	Java, Perl, OCaml, Python, C++, LaTex, Prolog, MIPS Assembly
Modeling Languages	AADL, Lustre
Tools	AGREE, Simulink

References

- Mats Heimdahl
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    - Tel: +1-612-625-2068
- Michael W. Whalen
  - Department of Computer Sience & Engineering, University of Minnesota, MN, USA.
    - Email: whalen@cs.umn.edu
    - Tel: +1-612-624-5130
- Joseph Gallian
  - Deptartment of Mathematics, University of Minnesota Duluth, MN, USA.
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