Jace D. Robinson Curriculum Vitae

Location: Dayton, Ohio **Cellular**: (937) 705-5210
Personal Webpage: http://jacerobinson8.github.io/ **Email**: robinson.329@wright.edu

Personal Statement

I am a graduate researcher seeking a research or data science summer internship to grow professionally while contributing to impactful projects. During several previous research and applied experiences, I had the opportunity to explore a wide range of topics from algorithmic development, mathematical modeling, abstract pure mathematics, high performance programming, and software engineering. These experiences have been vital to the discovery of my desired career path of researching, applying and communicating the results of machine learning and probabilistic models to applied problems. I will be looking to pursue a Ph.D following the completion of my M.S.

Education

Wright State University Dayton, OH
M.S. in Computer Science (GPA: 4.0) (Expected) December 2017
Advisor: Dr. Derek Doran
Focus: Probabilistic Modeling, Machine Learning, Network Science
B.S. in Mathematics (GPA: 3.98) May 2016
B.S. in Computer Science May 2016
Summa cum laude with University Honors and Thesis
Focus: Machine Learning, Computational Mathematics, Applied Mathematics

Research Experience

Graduate Research Assistant August 2016-Present
Department of Computer Science and Engineering, Wright State University
Advisor: Dr. Derek Doran

- Creating a novel random graph model for dynamic networks built on stochastic block model and seasonal state-space model with applied problem of anomaly detection on macro movement in massive geospaces (thesis project)
- Self-teaching of technical topics not covered in courses such as Bayesian statistics, Kalman Filters, and random network models
- Assisted advisor in writing grant proposal based on thesis project for Bloomberg Data Science Grant

Federal Contractor, Oak Ridge Institute for Science and Education 2015-2016
Air Force Institute of Technology, Wright Patterson Air Force Base
Advisor: Dr. Andrew Terzuoli

- Developed original parallel iterative closest point algorithm using k-d trees and Delaunay triangulation on GPU to align two point clouds in real-time resulting in two publications (C, C++, CUDA)
- Algorithmic and programming improvements to Gauss-Newton nonlinear optimization algorithm applied on noisy line-of-sight sensor measurements resulting in a publication (MATLAB)
- Additional contributions to projects of modeling web traffic using Markov Chains (MATLAB) and simulating radiation patterns of antennas in CST and SATCOM software
- Established team communication skills through interdisciplinary environment of physicists, mathematicians, electrical engineers, and computer scientists at undergraduate and graduate level
- Experienced presenter and communicator due to monthly hour-long presentations to sponsors

Undergraduate Research Assistant 2014-2015
Department of Mathematics and Statistics, Wright State University
Advisor: Dr. K.T. Arasu

- Created combinatorial arguments and computational software to discover new *almost difference sets* and *almost difference families* resulting in two conference talks and a published abstract (Java)

Publications

1. **Robinson J.**, Piekenbrock M., Burchett L., Nykl S., Woolley B., Terzuoli A. (2016) Parallelized Iterative Closest Point for Autonomous Aerial Refueling. In: Bebis G. et al. (eds) Advances in Visual Computing. ISVC 2016. Lecture Notes in Computer Science, vol 10072. Springer, Cham.
2. L. Burchett, **J. Robinson**, M. Piekenbrock, S. Nykl, B.Woolley, and A. Terzuoli, (2016) Automated aerial refueling: Parallelized 3d iterative closest point, IEEE NAECON, pp. 1–5.
3. Levy D., Roos J., **Robinson J.**, Carpenter W., Martin R., Taylor, C., Sugrue J., Terzuoli A. (2016) Non Linear Optimization Applied to Angle-Of-Arrival Satellite Based Geo-Localization for Biased and Time-Drifting Sensors. In International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences, vol 41.
4. (ABSTRACT) B Phillips, **J Robinson** (2015). Some New Almost Difference Sets Via Finite Fields. ACM Communications in Computer Algebra. vol 49.

Conference Presentations

1. Wright State Celebration of Research 2015
   Title: New Almost Difference Families via Cyclotomy and Block Designs
2. Fordham University Applied Computer Algebra Conference 2014
   Title: Some New Almost Difference Sets Via Finite Fields

Teaching Experience

Recitation Instructor 2013-2014
Department of Computer Science and Engineering, Wright State University
Courses: Discrete Mathematics, Discrete Structures, Intro to Discrete Structures

- Designed 55 minute reviews of the main lecture to teach in recitation along with providing feedback on homework and exams

Undergraduate Teaching Assistant 2013
Department of Mathematics and Statistics, Wright State University
Courses: Calculus I-II, College Algebra

- Answered student questions one-on-one and provided feedback on homework

Highlights of Class Projects

Graduate and Senior Undergraduate Class Projects 2016-Present

1. Detected and presented significant differences in features between public and private universities through classification problem on U.S. College Scorecard dataset using Bayesian logistic regression (R)
2. Developed software to data mine Twitter, identify dangerous incidents by natural language processing, cluster using geolocations, and visualize results (Java, R, Senior Project)
3. Data mined Twitter and created visualizations of popular political candidates and news stories surrounding the 2016 presidential primary election (Python, Tableau, HTML)

Scholarships and Honors

1.	Dean's List	(all semesters)	2012-2016
2.	Barry Goldwater Scholarship Nominee		2015
3.	Reynolds & Reynolds Scholarship		$5,000 2014
4.	Krishan K Gorowara Memorial Scholarship		$1,000 2014
5.	Science and Mathematics Scholarship		$500 2014
6.	Valedictorian/Salutatorian Scholarship	(Full In-State Tuition)	$32,000 2012
7.	Honors Competitive Scholarship		$10,000 2012
8.	Greeneview High School Valedictorian		2012

Leadership Involvement

Chair of College of Science and Mathematics Dean's Circle 2013-2015
Advisors: Assistant Dean Jacqueline Neal and Dean Yi Li

- As chair of the Dean's student advisory board, I led a group of 14 students representing the 8 departments of the college
- Regularly spoke to crowds of prospective Wright State students and families at open house events

- Promoted involvement in scientific community through fun science seminars of *Fun with Fire and Explosions* and *The Science of Beer*
- Assisted faculty by organizing informational seminar on new *Undergraduate Research & Experiential Learning* program

Other

U.S. Citizen