

SUMMARY OF QUALIFICATIONS

- Innovator – 15+ patents, plus contributions to technical projects in diverse fields
- Analytics + ops. research – thesis and graduate work in data analysis and optimization
- Extensive quantitative training – B.S. in Physics (3.98 GPA), M.S. in QERM
- Fast-learner; effective problem solver and communicator; able to adapt and collaborate
- Computer programming – Java, Python, D3, CPLEX, JavaScript, ArcGIS, HTML, R

EDUCATION

UNIVERSITY OF WASHINGTON – M.S. QUANTITATIVE ECOLOGY & RESOURCE MANAGEMENT (2016)

Thesis topic: *Assessing changes in forest ecosystem services under climate change using multi-objective optimization*

UNIVERSITY OF MISSOURI – B.S. PHYSICS (2011)

Graduated Phi Beta Kappa with departmental and Latin honors (summa cum laude, 3.98 GPA). Minor in mathematics. Semester abroad: Barcelona, Spain. Foreign language: Spanish

ACADEMIC AND PROFESSIONAL EXPERIENCE

GRADUATE RESEARCH ASSISTANT – UNIVERSITY OF WASHINGTON (2013-PRESENT)

Quantified risk of climate change destabilizing tradeoff relationships between ecosystem services in the Deschutes National Forest using multi-objective mixed-integer programs.

Developed user-friendly software to solve multi-objective optimization problems using IBM's CPLEX optimizer and its Java Concert Technology.

Designed interactive visualizations of optimization results using Javascript library D3.

RESEARCH INTERN – ELECTRIC VEHICLE ROUTING OPTIMIZATION, POLYTECH TOURS (WINTER 2016)

Optimized routing for electric vehicles using stochastic dynamic programming.

Formulated model and model assumptions and simulated queuing processes.

Developed and maintained project's Java codebase on GitHub.

TELECOM DESIGN ENGINEER – SPRINT (2011-2013)

Served as subject matter expert on the use of bi-directional amplifiers in LTE networks.

Designed, led, and reported on product testing for site-level telecom equipment.

Mitigated threats from intermodulation by computing unsafe frequency combinations.

GRADUATE TEACHING ASSISTANT – UNIVERSITY OF WASHINGTON (SPRING 2016)

Created and taught Java programming labs for class in optimization of natural resources.

UNDERGRADUATE TEACHING ASSISTANT – UNIVERSITY OF MISSOURI (AUTUMNS 2009, 2010)

Led problem solving and discussion sections for undergraduate physics sequence.

NSF REU RESEARCH ASSISTANT – UNIVERSITY OF CALIFORNIA, DAVIS (SUMMER 2010)

Analyzed existence of exoplanets using statistical methods on large astronomical datasets.

SELECTED PATENTS

US Pat. 8,896,497: Communications-tower antenna mount

US Pat. 8,897,383: Enhanced multipath environments for MIMO wireless networks

US Pat. 20,140,321,367: Wireless communication system with multiple Device-to-Device (D2D) communication configurations

COMMUNITY

Uptown Alliance - Transportation committee, Parks committee

INVOLVEMENT

USDOT Beyond Traffic Forum - volunteer

Queen Anne Greenways - volunteer
