Nicholas Kullman

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SUMMARY

- Experienced in operations research, machine learning, & analytics — mathematical optimization; deep reinforcement learning (AI); stochastic dynamic programming; data visualization, manipulation, and analysis
- Innovative – 25+ patents
- Strong quantitative skills – Operations Research PhD, QERM MS, Physics BS
- Competent programmer – Python, Java, Gurobi, JavaScript, D3, ArcGIS, CPLEX
- Fast learner, effective problem solver and communicator; can adapt and collaborate

EDUCATION

University of Tours, France - *PhD Computer Science (Operations Research)*
JAN 2017 - MAR 2020

University of Washington, Seattle, WA - *MS Quant. Ecology & Resource Mgmt.*
SEP 2013 - DEC 2016

University of Missouri, Columbia, MO - *BS Physics, minor in mathematics*
AUG 2007 - MAY 2011

- Phi Beta Kappa, Departmental Honors, Summa Cum Laude, 3.98 GPA

SELECTED EXPERIENCE

University of Tours, France - *PhD candidate*
JAN 2017 - PRESENT

- Model, formulate, and solve problems in electric vehicle logistics and autonomous vehicle fleet control
- Design and implement solution methods including deep-learning agents, heuristic policies, and exact optimization methods (math programs)
- Develop and maintain Java and Python codebases on GitHub

CIRRELT, HEC Montréal, Canada - *Intern Co-director, Visiting Doctoral Researcher*
OCT 2018 - DEC 2018, APR 2019 - JUL 2019

- Adapt classical vehicle routing problems for machine-learning-based solutions
- Interview, select, and advise masters student intern working on deep reinforcement learning

University of Washington, Seattle, WA - *MS student, Research & Teaching Asst.*

SEP 2013 - DEC 2016

- Assess impact of climate change on forestry operations
- Design interactive web-based visualizations using D3 (JavaScript)
- Develop Java solver for multi-objective optimization problems
- Quantify conflict among objective functions in multi-objective optimization
- Design material for, teach, and grade problem-solving labs for graduate-level course “Optimization Techniques for Natural Resources”

Sprint, Overland Park, KS - *Telecom Design Engineer*

JUL 2011 - AUG 2013

- Design & lead experiments for telecom equipment; analyze, deliver results
- Mathematical analysis of interference threats from intermodulation distortion

SELECTED PATENTS

US Pat. 9,094,814 - *Provision of relay operation information to a wireless communication network*

US Pat. 20,140,321,367/European Pat. 2989852 - *Wireless communication system with multiple Device-to-Device communication configurations*

SELECTED PRESENTATIONS

INFORMS Annual Meeting 2019 - *ATARI-ing the Vehicle Routing Problem with Stochastic Requests*
Seattle, WA, OCT 2019

EURO Working Group on Vehicle Routing and Logistics (VeRoLog) 2019 - *Control of Autonomous Electric Fleets for Ridehail Systems*
Sevilla, Spain, JUNE 2019

INFORMS TSL Conference 2017 - *Electric Vehicle Routing with Uncertain Charging Station Availability & Dynamic Decision Making*

Chicago, IL, JUL 2017

COMMUNITY INVOLVEMENT

Build vaccine efficacy visualization with Fred Hutch Cancer Research Center

Develop mapping utility for the Vehicle Routing Problem Repository (VRP-REP)

Create open source Python solver for electric vehicle charging problems