Bryan.crompton@AiRANACULUS.com
Senior Scientist, AiRANACULUS
Applied Math Background
Lowell, MA

EDUCATION

University of Wisconsin Madison
M.A. Applied Math 2013
- Passed PhD qualifying exams in Applied Math and Real Analysis, obtained high score in Real Analysis exam
- TA for four semesters of freshman and sophomore calculus
- Researched theoretical Chemical Reaction Networks: produced some small mathematical results
- Researched the fluid mechanics and propulsion of microbes in stokes flow

University of Massachusetts Lowell 2011
- Minor in physics
- Wroted seniors thesis on Fractional Calculus and the Fractional Diffusion Wave Equation
- NSF REU project at NAU 2010: studied artifacts of computed iterations of the logistic map, presented research to UMass Lowell faculty
- Published paper in Proceedings of SPIE on optimization of Quantum Cascade Laser waveguides

HONORS

- Honors Program & Deans List Umass Lowell
- Chancellor's Medal for Academic Achievement at Umass Lowell (awarded to highest GPA in College of Arts and Sciences)

AREAS OF EXPERTISE

PROGRAMMING: MATLAB, Python (numpy, matplotlib, scipy), C/C++, Linux command line, vim, ssh, git, github, LaTeX, SQL, Azure, Mathematica, LABVIEW

SOFTWARE: Windows, Mac OS, Ubuntu, Microsoft Word, Microsoft Excel

SKILL SET: Problem Solving, Mathematical Modeling, Mathematical Analysis, Numerical Implementations, Algorithm Development, Simulations, Technical Writing, Technical Presentation, Research

ACTIVITIES

- Over 150 computational math challenges solved on ProjectEuler.net
- Over 10k reputation on Math Stackexchange
- Linux command line aficionado, regularly write scripts and command line tools for personal and productivity needs
- Regular Hacker News reader

WORK EXPERIENCE

AiRNACULUS – Sr. Scientist
Chelmsford, MA, October 2019 to Current
- Mathematically modeled risk in spectrum management of a spatially variable wireless network
- Wrote cyclostationary signal analysis code in Python, including implementation of the SSCA

University of Wisconsin Madison – Teaching Assistant
Madison, WI, September 2011 to December 2013
- TA for Calc I, Business Calc, and Calc III
- Led discussion sections
- Wrote and graded quizzes

Sub-millimeterwave Technology Lab at Umass Lowell – Student Researcher
Lowell, MA, July 2007 to May 2010
- Wrote from scratch Qunatum Cascade Simulation Software in LABVIEW
- Published two papers in Proceedings of SPIE