

Charles D. Hernandez

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EDUCATION

UNIVERSITY OF FLORIDA (Graduate) Aug 2015 – Present

- PhD Candidate 2nd Year, Industrial and Systems Engineering | GPA: 3.83
- Select courses: Mathematical Programming | Linear Programming and Network Opt. | Game Theory

CORNELL UNIVERSITY (Graduate) Aug 2012 – May 2013

- Master of Engineering, Operations Research and Information Engineering | GPA: 3.88
- Select courses: Simulation Modeling and Analysis | Optimization | Data Mining | Stochastic Processes

CORNELL UNIVERSITY (Undergraduate) Aug 2008 – May 2012

- Bachelor of Science, Material Science Engineering, Minor in Applied Mathematics
- Select courses: Complex Analysis | Engr. Statistics | Analysis of Algorithms | Number Theory

EXPERIENCE

RESEARCH (Current) Aug 2015 – Present

Under Dr. Alfredo Garcia at University of Florida

- Investigated a flocking based optimization algorithm and compared its performance to conventional approach
- Designed a modified version of the algorithm that can be applied to non-convex problems
- Demonstrated the modified algorithm's surprising performance on several non-convex problems
- Currently implementing the modified algorithm on a computing cluster for a precision medicine application

DATA ANALYST July 2013 – July 2015

Capital One Financial Corporation

- Designed a data mart and software backend for new monitoring program
- Lead a group of data analysts to validate data mart according to customer specifications
- Independently identified teams solving optimization problems by hand and created tools for them to use
- These tools were able to reduce process length from 2 days to 1 hour and increase profit per origination
- Transitioned into new role where I developed general optimization tools for wider analyst usability

GE ENERGY PROJECT Jan 2013 – May 2013

Master of Engineering Project

- Collaborated with GE Energy to broaden capabilities of their proprietary energy capacity expansion software
- Designed a software package to calculate the optimal long term generation capacity expansion plan based on population growth estimates and current generation infrastructure
- Applied data mining processes to identify performance trends in order to improve algorithm efficiency

GRADUATE TEACHING ASSISTANT Jan 2013 – May 2013

Cornell University (ORIE 2700 Engineering Probability and Statistics)

- Led a team made up of 4 undergraduate Teaching Assistants and myself
- Organized logistics for collection, correction and redistribution of homework for ~200 students
- Scheduled office hours for all team members and created grade rubrics for homework

UNDERGRADUATE TEACHING ASSISTANT May 2010 – Dec 2010

Cornell University (MSE 3070 Materials Design Concepts I)

- Designed course curriculum for new class with 2 fellow Teaching Assistants
- Researched and designed lab experiments to teach students about microscopy and diffractometry techniques

TUTORING Aug 2008 – May 2010

Reach Tutoring Program (Team Leader) & Cornell Athletics Tutoring Program

- Tutored students in math and science for local outreach program
- Organized team schedule and tutoring plan for each day
- Worked 1-on-1 with struggling athletes to improve scholastic performance during competition season

SKILLS/ACTIVITIES

- **Programming:** Python, Matlab, GAMS, AMPL, SQL, Java, Excel VBA, R, Simulink, C#, C++
- **Interests:** Soccer, Yoga, Hiking, Reading, Skiing