Jeffrey C. Williams
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Work Experience

Bausch and Lomb, Rochester, NY 2015 – Present
Senior Project Engineer

- Lead and manage multiple projects within plant manufacturing and operations for class II medical devices (contact lenses)
- Initiated and delivered a custom application written in python (GUI in Qt) to explore medium production data resulting in the reduction of root cause investigation timelines from days to minutes.
- Develop and manage Discrete Event Simulation models for multi-platform plant production processes; from market demand through finished product release. Data is pre and post processed using python. Model results are used to analyze various expansion scenarios and prioritize impact of continuous improvement efforts.
- Routinely perform and communicate data analytics using plant-level manufacturing data to key management while mentoring engineers in the area of data science.
- Partner with IT to identify and implement business intelligence solutions while training engineers to effectively adopt and implement new capabilities.

W. L. Gore and Associates, Elkton, MD 2012 – 2015
New Product Development Engineer

- Brought new fluoropolymer-based products through development process from concept to commercialization in the following markets: automotive lighting, automotive sensors, electronic housings, portable electronics and packaging.
- Lead and managed global cross-functional project teams according to the Stage-Gate Process to successfully commercialize new products generating $20MM+ annual revenue.
- Developed improved product testing method using micro controllers and python based in-house application resulting in automated failure detection, decreasing cycle time by 800% per test and decreasing test error by 500%.
- Developed technologies in the lab in conjunction with literature research and generated material for relevant patent filings.
- Designed, built, tested and constructed specifications for prototypes for customer evaluation in new market initiatives.

Department of Mechanical Engineering, University of Maryland, College Park, MD 2010 – 2012
Graduate Research Assistant

- Investigated characterization techniques of viscoelastic materials using dynamic mode atomic force microscopy (AFM) through numerical simulation of explicit modeling.
- Programmed a dual oscillator vibration system in C and performed parametric studies with expected instrument settings using HPCC. Data analysis performed using Matlab.
- Operated the AFM to capture scans of topographies and energy dissipation maps.
- Presented work at multiple conferences, both nationally and internationally.

Education

M.S., Mechanical Engineering, 3.75/4.0 GPA 2012
University of Maryland, College Park, MD

B.S., Mechanical Engineering with Honors, 3.73/4.0 GPA 2010
University of Maryland, College Park, MD

Studied abroad and completed four engineering courses Fall 2009
University of New South Wales, Sydney, Australia

Skills and Programming Languages

- **Strong:** Python, MATLAB
  - Used Python and MATLAB in academic research and industrial applications (>10,000 lines each)
- **Proficient:** R, Arduino
  - Actively developing skills in R through various MOOC curriculums (Coursera Data Science)
  - Programmed various digital sensors/actuators and micro controllers using arduino and python for R&D testing platforms
- **Basic:** C, HTML, Java, CSS, Javascript, Android
  - Programmed AFM equations of motion in C, post-processed/visualized in MATLAB
  - Completed introductory courses in adaptive website design and application development
- Tableau, JMP, Minitab
- Imaging: DSLR, Optical Microscopes, SEM, AFM
- Image and Video Processing: openCV, SimpleCV, Fiji
- CAD (Solidworks, ProE)
- FEA: ANSYS: CFX (thermal and fluids), Mechanical

Awards and Activities

- Engineer in Training (EIT): Mechanical license #39839 2010 – Present
- NSF Fellowship: Louis Stokes Alliance for Minority Participation 2010 – 2012
- First Place: Oral Presentations (Graduate Physics, Nanoscience, and Materials Science division) 2012
  Emerging Researchers National (ERN) Conference in STEM
- American Society for Mechanical Engineers (ASME) 2011 – Present
- Pi Tau Sigma: Tau Mu Chapter (Mechanical Engineer Honors Society) 2009 – Present