Samuel M. Benson

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Education

M.S. Chemistry | University of Oregon | Eugene, OR **September 2019**

- GPA: 4.00
- Master's Industrial Internship Program, focus in Semiconductor & Photovoltaic Device Processing

B.S. Chemical Engineering | Oregon State University | Corvallis, OR **June 2018**

- GPA: 3.88
- Winner of 2018 College of Engineering Burgess/Tektronix Award, presented to an outstanding senior in engineering based upon their academic performance, leadership, and professional experience.

Technical Skills

Proficient – JMP/JSL, MS Excel/Word/PowerPoint, Data Analysis, Design of Experiments, SEM & FIB
Intermediate – PowerShell, Visual Basic, MATLAB, Statistical Process Control, TEM
Basic – Python, EDX, ToF-SIMS, XPS

Technical Experience

Quality Assurance Specialist | Thermo Fisher Scientific | Hillsboro, OR **January 2019 – January 2020**
Responsible for ensuring quality, reliability, and robustness for the next generation of SEM/FIB dual beam systems as a member of the New Product Development team.

- Improved the process robustness of a critical SEM feature by over 20% within a month of joining the project team by working with software engineers to optimize the metrology workflow.
- Traveled to the Czech Republic multiple times to present results to technical leadership, conduct rigorous integration testing, and handoff next-generation FIB features to the Helios 5 team.
- Enabled near-instantaneous analysis of product quality experiments by writing JMP scripts to pull, clean, analyze, and output the results of DOE data at the click of a button.
- Designed and implemented an automated software version tracker for R&D systems in PowerShell to replace the existing manual tracking system.

Writing Systems Intern | HP Inc. | Corvallis, OR **April 2017 – September 2017**
Responsible for designing new quality tests, optimizing existing tests, and analyzing print quality data for the R&D Large Format Printing integration team.

- Discovered a brand-new text quality defect signature by correlating patterns in optical density profiles to overall print quality that no existing metric measured.
- Doubled the effectiveness of the line quality print assessment from 45% to >90% by developing a new 4-factor quality metric to replace the existing 1-factor quality metric.
- Increased quality test throughput by 50% within a month of joining the company by streamlining the test procedure and writing VBA scripts to automate data collection, entry, and grading.

Process Engineering Intern | Maxim Integrated | Beaverton, OR **July 2016 – March 2017**
Process owner of two wet etch tools, with an emphasis on sustaining daily operations and driving continuous improvement projects for process quality, safety, and throughput.

- Stabilized the etch rate of a wet etch system for the first time in over a year by identifying & correcting poorly controlled testing conditions that the 3 previous process engineers all missed.
- Increased process throughput by up to 10x and saved nearly $300k/yr in chemical & operational costs by moving 4 metal clean processes to a new high-volume batch tool.
- Resolved a major contamination excursion by identifying the particle type using SEM/EDX, analyzing the workflow for potential sources, and tracing the root cause upstream to a missed cleaning step.