

## **Brennen Stanley Bates**

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### **WORK EXPERIENCE**

#### Freelance Web Developer:

- **Portfolio:** <https://brenbates.github.io/Portfolio/>
- Completed University of Utah Professional Education Coding Bootcamp.
- Full stack web development.

#### IM Flash Technologies:

##### *Chemical Mechanical Planarization Shift Engineering Supervisor*

October 2014 – June 2019

- Generated alarms reporting that was simple and easy to use. Coached team to utilize report leading to characterization of flow faults across AMAT Prime fleet. Guided team to run series of tests and then work with vendors to upgrade software that eliminated faults saving 12.5-man hours per week.
- Lead team to source a circular defect particle pattern to root cause, then implement new reaction mechanisms, calibration procedure and particle partition recipes for the CMP AMAT Prime equipment.
- Lead team to develop roles, responsibilities and expectations document for CMP Equipment team.
- Conducts a core team including engineering and shift teams to drive 6S, alarms investigation, proactive maintenance, continuous improvements and troubles list investigations for an equipment set.
- Develop, track and communicate bi-annual line of sight goals for the area.
- Supervised and mentored 15+ employees to develop them for future positions.
- Utilized Microsoft SQL server, Report Builder and Excel to create line of sight goals and various metric reports to monitor fab health and drive productivity and quality improvements.
- Implemented 'traps' website for daily review of dashboards and metrics to drive increased accountability and engagement.
- Area subject matter expert for qualification system set-up. Implemented qualification system from scratch for new generation EBARA 300X tools. Significantly improved equipment availability.
- Perform preventive maintenance and repair of AMAT LK, AMAT LK Prime, EBARA 300S, EBARA 300X CMP polisher and cleaner modules and NOVA metrology machines alongside technicians.

##### *Diffusion Shift Engineer – Tactical Lead*

May 2012 – October 2014

- Determined root cause of nitride deposition thickness shifts that were a consistent problem for 5 years. Discovery led to purchase of \$1.5 million-dollar tool and significant win for scrap reduction and statistical process control (SPC) in Diffusion.
- Audited run-to-run control of polysilicon workstations and transferred processes to the new controller
- Designed a qualification system solution to reduce sample for resistivity in polysilicon deposition.
- Updated diffusion process adjustment calculator with several upgrades to prevent human quality impact.
- Generated thin film deposition thickness adjustment solver calculators working with Excel macros to eliminate human quality deviations associated with not running solver and poor data.
- Developed VBA code to enable statistically determined qualification targets used for several processes.
- Implemented calculators to release one process to run based on how another was running.

### **EDUCATION**

Professional Education Coding Bootcamp Certificate  
University of Utah, Salt Lake City, Utah

Feb 2020

Bachelor of Science, Chemical Engineering  
University of Utah, Salt Lake City, Utah  
GPA: 3.9, *Cum Laude*

May 2012

### **HONORS**

IM Flash Core Team of the Month

January 2018

IM Flash Great Catch Safety Award

December 2016

Patriot Award – Employer Support of the United States Guard and Reserve

July 2016