NEAL MCCLOSKEY

Austin, TX • (602) 317-8400 • nealmccloskey@gmail.com

EMERGING ENGINEERING TEAM LEADER

Results-oriented professional with a proven track record in driving process improvements and enhancing production yield within intricate manufacturing environments. Adept at developing and implementing effective processes, maintaining equipment, and swiftly troubleshooting and addressing failures. Demonstrated excellence in conducting experiments and analyzing data to optimize capacity, reduce tool-to-tool variations, and rectify performance defects. Consistently delivers key projects on time, including successful oversight of numerous 5S initiatives. Recognized for making data-driven decisions and exhibiting robust leadership skills. Proactive communicator with a talent for leading and guiding cross-functional teams.

Areas of Expertise:

Process Engineering | Process Design | Product Integration | New Product Integration (NPI)
Data Collection, Extraction & Analysis | Full Stack Development | AGILE
Equipment Handling | Quality Assurance | Wafer Profiling | Pilot Operations
Process Improvement | Semiconductor Manufacturing | Project Management | Coordination
Cross-Functional Teamwork | Statistical Process Control | Team Leadership | Tasks Management

Technical Proficiencies:

MS Visual Basic | Python | Streamlit | HTML | CSS | Java Script | Vue | FastAPI | C | SQL | SpotFire | Logic Blocks | MiniTAB | JMP | LabView | NorthWest Analytical | Park View | Aspen Plus | COMSOL Multiphysics 4.1 | ChemCad MATLAB | MathCAD | Maple | CP2K | LaTex | Linux | Jmol | C&D Software | ArgusLab and Process Control Design

PROFESSIONAL EXPERIENCE

SAMSUNG AUSTIN SEMICONDUCTOR; Austin, TX — 2017 – Present

Etch Wafer Loss Quality Engineer / Software Developer

Provided visionary leadership to a dynamic team of software engineers, fostering collaboration with departmental representatives to review and meticulously analyze processing failures. Formulated strategic action plans to address quality issues proactively.

- Initiated the establishment of an internal task force dedicated to scrutinizing processing failure modes and reasons. This initiative aimed to enhance communication channels between equipment, processes, and various departmental teams.
- Championed an interdepartmental audit of npw particle check SPC limits to ensure alignment with headquarters and customer requests, ensuring harmoniously integrating each unit part.
- Designed and led comprehensive training courses on Advanced Process Control (APC) utilization within the Etch department, catering to multiple levels of understanding.
- Demonstrated unwavering leadership by guiding a group of four new software engineers through multiple department and team organizational changes.
- Successfully orchestrated the migration of multiple applications and databases from a local server to a cloud structure. This strategic move was in response to internal system management and access permission changes within the software development team.
- Pioneered creating a groundbreaking email subscription application, enabling users to preview and control their email and report preferences. Multiple departments have adopted this innovative application method.
- Exercised meticulous oversight by managing and maintaining 28 servers responsible for collecting and scrubbing data from various tool types, crucial for equipment fault analysis and process improvements.
- Served as the departmental representative in Quality & Reliability's "Quality Bingo," driving quality improvement projects. Through strategic communication via departmental emails and TV slides, the team completed all assignments first and clinched the quality prize for the year.

- Collaborated with technical training conductors to facilitate migrating current document control from Excel and SharePoint-based programs to updated Atlassian (Confluence) sites. This transition included additional version control and enhanced capabilities.
- Initiated and implemented continuous improvement plans for engineers throughout the department, positioning the team to compete effectively with external organizations.

Etch Process Layer Owner

Provided invaluable mentorship to junior engineers, offering guidance in their daily tasks. Formulated and executed strategic initiatives to enhance process yield and reliability, reduce costs, and mitigate risks while promptly addressing manufacturing challenges.

- Oversaw the seamless integration of new products (NPI) for the BEOL TEL team, including the creation and setup of new devices and support for ongoing new product developments.
- Assumed accountability for legacy devices (28/32/45nm) in the BEOL, managing their operation on Tokyo Electron (TEL) tools.
- Served as the team's Advanced Process Control (APC) master, spearheading key initiatives to ensure adherence to product manufacturing requirements and quality control standards.
- Meticulously monitored critical metro, Yield, and ET trends in collaboration with quality control and team members.
- Demonstrated leadership in successfully spearheading key projects, such as 5S initiatives, photoresist material changes, and temperature reductions, to address ET failures. Collaborated with external departments to qualify and manage interdepartmental improvement items.
- Achieved significant reductions in ET/ALPs related to scrap and EQP rundown, elevating production yield within the department and substantially minimizing qualification times to expedite tool return to production post-maintenance.
- Revolutionized wafer profiling across multiple departments by developing a comprehensive full-shot CD macro for statistical interpretation.
- Utilized extensive Excel Macro expertise to create multiple tools, providing crucial daily support to the team and department.

HEALTHTELL; Chandler, AZ 2015 – 2016

Pilot Operations Specialist/Statistical Process Controls Engineer

Developed and implemented manufacturing processes, protocols, and SOPs in preparation for the Biotech Startup moving from Series A to Series B funding. Maintained GMP protocols within a class 1000 cleanroom and trained new hires on the various chemical processes and safety regulations. Managed end-to-end wafer production process. Significantly enhanced process reproducibility by establishing a quantitative method to monitor a complex ~4 days process with over 40+ iterations; enabled identification of processing errors in real-time. Monitored environmental variables including temperature and airborne particles, and observed their impact on the process. Conducted time studies of the multiple steps within wafer production from start to finish to determine bottlenecks and areas of improvement based on operator standard deviation. Created statistical documentation by utilizing ellipsometry measurements to interpret complex experimental data and evaluated results. Created and initiated an SPC program utilizing VBA and Excel to monitor products during the manufacturing process following Six Sigma QC standards.

ARCLIN PERFORMANCE PRODUCTS; Moncure, NC 2013 – 2014

Applications Technician/Research Engineer

Developed / implemented a MS Access Program / Database to replace the old paper trail filing system for Quality Control Certificate of Analysis. Enhanced accuracy by creating defense lines which verified measurements were within spec when the QC tests were being inputed into the system. Facilitated data analysis between sites by deploying database nationally. Performed multiple analytical experiments including tests for categorization of resin products and accurately recorded relevant data. Assisted in the installation of complex diagnostics equipment.

EDUCATION, AWARDS & PROFESSIONAL DEVELOPMENT

WORCESTER POLYTECHNIC INSTITUTE, WORCESTER, MA

Bachelor of Science (BS), Chemical Engineering, 2012

Minors in Math and Physics

Eagle Scout

AWARDS

2023 Q&R Department Quality "Bingo" Project Award

Director Award – 28nm Cu Bg Systematic TFT

Director Award – 14nm SOC RF Micro Arcing Resolution

Directors Award – AIO NPW ER Specs Improvement

Spot Awards for various Macro work

Completed over 200+ Samsung U courses covering
APC knowledge, chemical transport regulations and handling safety, leadership skills, and qualities

Continuously working on Linkedin Learning / Udemy courses on programming, leadership and communication skills to develop necessary skills for future success.