MICHAEL RIES

4207 Eagle Rock Ct, Saint Charles, MO 63304 • Cell: 314-779-4525 • michaelries.net • michael.ries@gmail.com

Summary

Engineering professional with 20-years experience successfully tackling difficult cost and yield challenges, leading cross-functional, multinational product development teams, and achieving results leading to revenue exceeding $200,000,000.

Passionate software enthusiast with intermediate-level understanding of various object-oriented and web programming technologies, with an emphasis on the Microsoft platform.

SKILLS

- Excellent written and verbal communication skills
- Detail-oriented
- Accustomed to rapidly changing goals and priorities
- C, C#, VB, Java, Javascript, SQL, CSS, HTML, MVC, .NET, Entity Framework, JQuery, Bootstrap, Razor, JSON, AJAX
- Go-to guy for queries, macros, and custom apps
- Quality-minded
- Advanced analytical problem-solving skills
- Troubleshooting and debugging
- Works well individually or in a team
- Technical team and project leadership

SOFTWARE PROJECTS

Website for Pooch Positive Training September 2016 to Present

- Storefront for dog training company, created using C#, MVC and .NET, JQuery, Bootstrap, Entity Framework, Knockout, Razor, and JSON.
- Features user account management, customer contact form, client management application, drag-and-drop dog thumbnail cropping/resizing and upload.
- Hosted at http://poochpositivetraining.us-east-2.elasticbeanstalk.com.
- Source: https://github.com/mikeries/PoochPositiveTraining

Empire May 2016 to Present

- Universal Windows Platform multiplayer space war game using C#. Sandbox for learning and practicing software design patterns, C#/.NET, networking, XAML, serialization, etc.
- A very early single-player release can be found at: https://github.com/mikeries/Empire/releases
- Source: https://github.com/mikeries/Empire

FD-SOI Epi Smoothing App, for SunEdison Semiconductor 2014

- A VB-Excel application that improved yields by 40% while simultaneously simplifying operations.
- The application queries the production SQL database to retrieve thickness data and compute tool recipe parameters to produce optimum product performance and yield on wafer-by-wafer level.

SOI Production Dispatcher, for SunEdison Semiconductor 2012 to 2013

- Applies drum-buffer-rope theory to optimize product flow through the manufacturing process, shortening production cycles, improving efficiency. Written in VB-Excel.
- The application queries the SQL database for work-in-progress and prioritizes each production lot at each step based on shipment schedules and statistically determined cycle times for specific production flows.
- Provides a UI for each operation listing the product lots in the order they are to be processed.

Cluster Review Application, for SunEdison Semiconductor 2007

- VB-Excel application to rapidly review and classify of defects for root cause identification and improved yields.
- Reads the defect coordinates from the wafer inspection system and creates a graph for each wafer. User selects defect clusters to zoom in for a closer look, classifies the defect type then saves the result to a database.

Defect Image Database, for MEMC 1998

- A VB-Access script populated a database with defect images and associated metadata.
- A VB-Excel UI allowed users to search the production SQL database for specific products, time periods, tools, etc. and review the associated defect images, enabling more rapid defect identification and elimination.

MICHAEL RIES

4207 Eagle Rock Ct, Saint Charles, MO 63304 • Cell: 314-779-4525 • michaelries.net • michael.ries@gmail.com

WORK HISTORY

Associate Fellow
SunEdison Semiconductor (formerly MEMC Electronic Materials) - Saint Peters, MO 2012 to 2016

- Worked directly with customers to establish product requirements for SOI and bulk-Si 10nm and 7nm nodes. Managed global R&D resources to develop processes to meet requirements and deliver products with leading-edge performance. Principle investigator for several out-of-the-box product technologies. Collaborated directly with customer technical personnel to develop products satisfying specialized needs.

Senior Research Scientist
SunEdison Semiconductor (Formerly MEMC Electronic Materials) - Saint Peters, MO 2003 to 2012

- Worked individually or as part of cross-functional teams to develop new or improved products and processes. Used various DOE and analytical methods to improve quality, reduce cost, or improve performance of existing processes. Spent one year in Leuven, Belgium as resident researcher at IMEC, developing and characterizing low-cost deposition processes for strained-silicon products.

Research Scientist /Senior Group Leader/Manager/Director
MEMC Electronic Materials, Saint Peters, MO 1996 to 2003

- Managed teams to develop, qualify and ramp MEMC's 300mm epi deposition process. Performed and analyzed experiments to determine root cause of various process defects to drive yields up and costs down, significantly impacting bottom line. Developed and implemented novel ideas to reduce process cycle time and improve product characteristics.

Research Assistant
University of Illinois, Advisor: Nick Holonak, Jr. 1990 to 1996

- Design, fabrication and characterization of semiconductor laser devices, studying novel laser geometries and developing new processes for production of them, especially those based on native oxidation of AlGaAs structures.

Cooperative Education Student
McDonnell Douglas Corporation, Bridgeton, MO 1986 to 1989

- Five separate 4-month assignments including work on test and monitor equipment, neural network simulators, optical fiber characterization, and semiconductor waveguide structures.

Programmer (Part Time)
Intercom, Inc, Champaign, IL 1984 to 1988

- Programmed Computer-Based Training lessons using variety of languages and personal computers. Specialized in interactive video.

EDUCATION

Ph.D.: Electrical Engineering -- Solid State Lasers, **University of Illinois** - Urbana, IL

Master of Science: Electrical Engineering -- Solid State Lasers, **University of Illinois** - Urbana, IL

Bachelor of Science: Electrical Engineering, **University of Illinois** - Urbana, IL

ACCOMPLISHMENTS

- More than 12 issued patents or pending patent applications
- 26 publications

REFERENCES

Available upon request.