ANDREW MENZ

Manufacturing Software Engineer

PROFILE

Senior Staff Engineer with 18 years of R&D experience and a proven record of creating solutions in a high-tech manufacturing environment through full-stack software development, process development, experimentation, data analytics, and project management.

SKILLS

- Software project management
- Full-stack development
- Visual Studio .NET (C#, C++, VB)
- Technical presentations, documentation, internal sales
- Industrial automation software, CNC G Code, PLC Ladder
- Image analysis algorithms, defect detection, Cognex VisionPro, OpenCV
- Relational database design, Oracle Database, SQL Server, SQLite, SQL
- Data analytics, JMP
- GitHub, Azure DevOps, Jira
- Manufacturing process development
- Yield/throughput/cost optimization

PATENT

US Patent: US20150111468A1

EDUCATION

M.S. **Computer Science** GPA: 3.50 / 4.00
Iowa State University Ames, Iowa (2006)

B.S. **Computer Science, Math** GPA: 3.99 / 4.00
Central College Pella, Iowa (2001)

WORK EXPERIENCE

Sr. Staff Engineer (R&D) **Seagate Technology** **17 years**
Jun 2006 - Jun 2023 Bloomington, MN

Seagate is the world's leading hard disk drive manufacturer.

- Managed software projects across multinational, cross-functional engineering teams in the Research & Development group to create manufacturing solutions that met product roadmap requirements, increased factory yield and throughput, and reduced cost.
- Led R&D projects through inception, implementation, experimentation, internal sales, and factory integration.
- Developed intelligent automation software for high-precision manufacturing equipment including dicing saws, material handlers, ceramic lappers, DLC deposition, and ion mills.
- Created image analysis software (defect/contamination detection, surface/shape metrics) for interferometric profilometers, machine vision systems, AFM, and SEM.
- Developed a relational database (80+ tables) for factory equipment, then applied analytics in JMP to identify mechanical failures, excursion root causes, and an optimization opportunity for 20% throughput increase.
- Improved process performance through integration of confidence-based dynamic process flow, inline metrology, endpoint detection, fault detection and classification (FDC), statistical process control (SPC), and automated calibration/setup/maintenance/lockout.

Software Engineer **Advanced Tech. Group** **1 year**
Jun 2001 – Aug 2002 Des Moines, IA

- Created an automated, monitored telephone system with database integration using C++ and telecom hardware.