DENNIS MOTT
DATA SCIENTIST / ENGINEER

PROFILE

Highly motivated engineer with over a decade of experience in a fast-paced manufacturing environment. Demonstrates innovative thinking and leadership in optimizing mold design processes, significantly reducing costs, and improving product quality. Aspires to leverage analytical skills for impactful data-driven decision-making in a dynamic, data science role.

PROFESSIONAL EXPERIENCE

Mold Design Engineer III   *July 2018 - current*
DENSO Manufacturing Michigan, Inc.   Battle Creek, MI
  + *Mold Design Engineer II (Jul 2016 – Jul 2018)*
  + *Mold Design Engineer I (Dec 2014 – Jul 2016)*
  + *Mold Design Co-Op (Apr 2013 – Dec 2014)*

- Achieved $50k in cost savings on cooling fan mold tuning by analyzing data and developing regression models to accurately predict warp based on part shape variables.
- Spearheaded the creation of a PowerBI dashboard that transformed executive reporting processes, reducing the time to generate department tooling profit and cost-saving reports from hours to mere seconds.
- Utilized Siemens NX to design and execute over six hundred mold modifications, enhancing product quality and ensuring compliance with safety and engineering standards.
- Enhanced manufacturing processes with Moldex3D simulation studies, reducing cycle times by 10-15% through cooling optimization.
- Oversaw new mold builds by conducting product design reviews, cost quoting, mold inspections, progress meetings, and molding process rheology, ensuring seamless execution and high-quality results.
- Collaborated with quality and product design engineers to guarantee new products adhered to rigorous design standards, ensuring high-quality outcomes.
- Delivered presentations on innovative warp prediction projects at the 2017 and 2019 Moldex3D North America User's Conferences, highlighting advanced problem-solving methodologies and expertise in simulation technology.
- Leveraged additive manufacturing to design and produce dozens of innovative 3D-printed steel conformal inserts, achieving over $50k in maintenance cost savings through enhanced efficiency and durability.
- Mentored engineering interns by providing guidance and leadership on diverse projects, fostering their skill development, and ensuring successful project completion.

PROJECTS

- **Cooling Fan Warp Prediction with Machine Learning -** Gathered and analyzed part measurement, product design, and steel measurement data to develop machine learning models in Orange, successfully predicting fan warpage and reducing tuning costs by over $50k.

- **Melanoma Skin Cancer Detection using a CNN -** Developed a Convolutional Neural Network from the ground up using Keras to classify skin lesions as benign or malignant, integrating the model into a web application using Flask for seamless deployment.

- **Manufacturing and AI: Job Displacement Fears -** Analyzed potential ethical challenges associated with integrating AI into the manufacturing workplace as part of the DTSC 690: Ethical and Philosophical Issues in Data Science course.

CONTACT

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EDUCATION

M.S.
Eastern University
Data Science
2023 – 2024

B.S.
Western Michigan University
Major: Mechanical Engineering
Minor: Mathematics
2010 – 2014

CERTIFICATIONS

- Data Science (Codecademy)
- Design of Experimentation (SAE)
- Injection Molding Essentials (RJG)
- NX Design (Siemens)

SKILLS

- Python
- R
- Machine Learning
- Tableau
- PowerBI
- PostgreSQL
- Flask
- Microsoft Office
- Moldex3D
- Siemens NX

HOBBIES

- Exploring the World
- Woodworking
- Golfing
- Cooking
- Growing Data Science Knowledge