RYAN DALBY

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Boulder, CO

EDUCATION

The University of Utah   *May 2022*
M.S. in Mechanical Engineering- Robotics
Graduate Certificate in Deep Learning
B.S. in Mechanical Engineering
Minor in Computer Science
Overall GPA: 3.897

EXPERIENCE

Seagate Technology   June 2022 - August 2022
Engineer II- Robotics Software   *Longmont, Colorado*

· Supported robotic tool C#/.NET-based software, completing backlog tasks, testing changes on hardware, and releasing software to production.

· Reduced unnecessary robotic teach-time by implementing a new recipe management system. Interfaced with various internal database systems with limited documentation by successfully networking across multiple teams. This reduced teach-time by up to 10 times per tool when a new product is introduced.

· Introduced modern version control practices to existing robotic software by making the software Git-friendly and implementing Gitflow to improve development speed and encourage collaboration. Added effective, previously non-existent, documentation to assist future developers onboard for robotic tool development.

Blyncsy Inc.   Jan 2022 - May 2022
Deep Learning Intern   *Salt Lake City, Utah*

· Completed graduate-level internship with Blyncsy Inc., working in a small team environment. Completed proof-of-concept deep learning-based road crack detection and size estimation pipeline to provide department of transportation customers with a near-real-time geospatial map of road conditions from real-time dashcam imagery. Investigated and utilized state-of-the-art deep learning and computer vision datasets, models, and techniques to overcome having no existing labeled data for the machine learning task. Interacted with external vendors and conducted physical experiments to verify techniques and collect ground-truth data. Detailed results in a publishable report.

· Received University of Utah School of Computing Graduate Certificate in Deep Learning by completing requisite coursework and internship focusing on machine learning and computer vision and their applications in industry.

Seagate Technology   May 2021 - August 2021
Summer Intern - Robotics Software Engineer   *Longmont, Colorado*

· Implemented new software compatibility for a legacy robotic tool in C#/.NET by documenting and porting tool IO, implementing SCARA robot kinematics, and creating software to convert learned robot positions to be compatible with the new software. Extensively documented porting process, tested software on hardware, and described a plan for replacing legacy software.

· Supported a robotic tool throughout the summer. Completed high priority backlog items, tested on hardware, and released software to production, communicating with teams around the world.

· Investigated creating Cognex Vidi machine learning-based models for defect detection and OCR. Labeled data to train models and documented how to develop models.

Seagate Technology — May 2020 - December 2020
Intern III — *Longmont, Colorado*

· Leveraged machine learning to predict robotic tool failures. Explored various models such as support vector machines and recurrent convolutional neural networks implemented using Python and Keras.
· Constructed a data wrangling pipeline to extract trainable features from raw log data.
· Created ML.NET machine learning ONNX model consumption platform.
· Expanded team's machine learning knowledge. Integrated machine software with a machine learning data platform using C#/.NET.
· Reliably communicated with remote team members around the world.

Code Corporation — May 2019 - August 2019
Mechanical Engineer Intern — *Draper, UT*

· Utilized the iterative engineering design process through CAD (SOLIDWORKS) and rapid prototyping to develop an injection-molded bracket to combine multiple parts into a single new product.
· Effectively made various changes to existing products through an engineering change order process to reduce manufacturing costs. Assisted in conducting product testing to determine possible improvements.
· Employed agile project management in a professional work environment to increase productivity and communication.

TECHNICAL STRENGTHS

Programming Languages
· Most experienced with C# and Python.
· Experienced with C++/C, MATLAB, and Java.
· Limited experience with JavaScript.

APIs & Tools
· Most experienced with .NET, Arduino, scientific Python libraries (Numpy/Pandas/Matplotlib/Scipy), PyTorch, Sci-kit Learn, Sci-kit Image, Git, Jupyter, Linux (Bash), Windows, MacOS VScode, Visual Studio, and Vim.
· Experienced with SOLIDWORKS (CSWA certified), Jira (Scrum), LaTeX, and Docker.
· Limited experience with the ROS and Three.js.

RELEVANT COURSEWORK

Graduate Coursework
Deep Learning, Machine Learning, Artificial Intelligence, Deep Learning Capstone, Image Processing, Virtual Reality, Advanced Mechatronics, Robotics, Classical Control, and Robot Control.

Undergraduate Coursework
Numerical Methods, Mechatronics, Engineering Design, Software Practice, and Algorithms and Data Structures.