Ben Willcox Email : benjamin.willcox2@gmail.com
LinkedIn, Github

Skills

- **Programming Languages:** Python, R, SQL
- **Programming Frameworks/Libraries:** PyTorch, OpenCV, Huggingface, Pandas, NumPy, Matplotlib, Seaborn, Streamlit, Shiny, ggplot2, dplyr
- **Technologies:** Git, PowerBI, Tableau, PostgreSQL, MySQL, Weights and Biases, Excel, Grafana
- **Fields:** Deep Learning, Computer Vision, Data Science, Data Visualization, IoT

Experience

STARS Advanced Radiology Services — Grand Rapids, Michigan (Remote)

Data Analyst — *04/2022 - Present*

- Develop and maintain R Shiny applications to provide dynamic data visualization dashboards and automated code-free querying tools to deliver real-time business insights and enhance decision-making processes.
- Build and automate RMarkdown reports for worklist volume prediction and visualize patient wait times. These reports have provided critical insights that optimized radiologists' workflows leading to a 60% reduction in our unread worklist.
- Lead data reporting for our billing team by utilizing SQL skills to extract key details about payer groups, resulting in a 40% reduction in Days A/R and an 85% reduction in AR dollars from charges over 120 days old.

Byrne Electrical Specialists Inc. — Rockford, Michigan

Data Science Intern — *(May – September 2019, 2020, 2021)*

- **Assembly Robot Data Pipeline and Analysis (2021):** Worked with a team to design a data pipeline for collecting assembly robot sensor data via raspberry pis to publish batches of data to the cloud. Used processed sensor data queried from a PostgreSQL database to create a Grafana dashboard to analyze OEE metrics such as uptime/downtime availability, part completion speeds, status code charting, and defective part rate. These insights improved our OEE for our robotic arm assembly machines by 15%.
- **OEE Implementation and Dashboarding (2020):** Created and visualized OEE metrics dashboards for various machines on the production floor. Conducted research and analysis to determine ROI of capital purchases for production floor equipment and software membership connected with our molding machines. Produced weekly OEE machine reports in PowerBI to assist leadership in making informed decisions.
- **Statistical Process Control for Crimp Machinery (2019):** Developed a statistical model based on SPC industry standards to analyze crimp terminal widths in production. Collaborated with developers to implement my model into our machine HMI to alert operators and maintenance teams when a machine was deviating out of specification limits. This model created a safer work environment by predicting machine failures before dangerous malfunctions could occur.

Projects

- **Streamlit Dashboard for Custom Professional Valorant Elo Ratings**: Developed a dynamic Streamlit dashboard that displays various tables, visualizations, and calculations using a custom made Elo calculation inspired by chess. Created a robust data schema hosted in an AWS RDS database that is automatically updated via a Python script. Conducted A/B testing to optimize ELO calculations prediction accuracy.

Education

Michigan State University *BS in Economics, Minor in Quantitative Data Analytics 12/2021*