




Peter N. Dobbs

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| PROFESSIONAL EXPERIENCE | MARQUETTE ENERGY ANALYTICS, LLC, MILWAUKEE, WI <i>Product Owner and DevOps Engineer</i> October 2018 - present |
| | <ul style="list-style-type: none">• Deploying regular updates for forecasting models on the cloud.• Product owner for the GasDay Toolkit, a BI tool that helps our customers analyze data and generate pre-configured reports on-demand.• Primary contact for licensed products at five of our customer sites.• Culture-influencer within a recent startup. |
| | GASDAY PROJECT AT MARQUETTE UNIVERSITY, MILWAUKEE, WI <i>Application Developer</i> August 2016 - October 2018 |
| COMPUTER SPECIALTIES | <ul style="list-style-type: none">• Created an Excel Add-In in C# for data access and analysis.• Collected feedback from users at various companies nationwide. |
| | <i>Application Support Specialist</i> June 2015 - October 2018 |
| | <ul style="list-style-type: none">• Deployed regular updates to the energy demand forecasting AI models.• Developed automation tools that decreased deployment time by 20%.• Led process improvement for product testing and team exchanges. |
| EDUCATION | Languages: C#, SQL, Python, R, Matlab, HTML/CSS/PHP |
| | Concepts: Agile, CI/CD, RESTful API |
| | Technologies: Git, Jira, TeamCity, Crucible |
| FEATURED PROJECTS | Platforms: AWS, Azure, Windows, Linux, MicroC/OS-II |
| | Standards Practiced: HL7, DICOM, IHE |
| | Master of Science, Computational Sciences Marquette University Graduate School, Milwaukee, WI, expected May 2020 GPA: 3.7/4 |
| FEATURED PROJECTS | Bachelor of Science, Biomedical Engineering - Biocomputing Marquette University Opus College of Engineering, Milwaukee, WI, May 2018 GPA: 3.5/4 |
| | <i>Expectation Maximization Algorithm</i> The EM Algorithm is an iterative method that can be used to find model parameters. This project implemented a R shiny app that takes in data from a 1-dimensional mixture model and finds the optimal parameters to represent the distribution of that data. The final product is published to peterdobbs.shinyapps.io/em-algorithm .  |
| | <i>Parallelizing Genomic Sequence Alignment</i> This project focused on parallelizing the calculation of genome sequence alignments from a large data set. Attempts were made using MPI and OpenMP in order to address two areas for potential parallelization: (1) cost matrix generation for a given sequence pair, and (2) batch comparison of sequences.  |
| FEATURED PROJECTS | <i>EMR6050: Web Solution for an Urban Mental Health Clinic</i> A suite of cloud-based tools to meet the technical needs of a new behavioral health clinic. All instances and data are hosted on AWS. This project is on-going as a part of my Master's thesis project.  |

Assessment of Public Service Accessibility in Milwaukee



Using various open data sets for Milwaukee, WI and GIS shape files, this project qualified a relationship between adjusted gross income and calls for Emergency Medical Services (both in aggregate and in particular instances related to medical services) in different areas of Milwaukee. While investigating the topic, the [deon](#) data science ethical checklist was applied as a way to assess the implications of these findings.

Pupil Detection



This was a collaborative project to build an eye detection application. I lead the team responsible for creating the software requirements specification (SRS) for the edge detection step. I then received the SRS for the circle (pupil) detection step and implemented it in C++.

Team Great Lakes - Team Lead



Led a team of students from Milwaukee and Chicago in the Society of Imaging Informatics in Medicine (SIIM) Hackathon at the 2018 and 2019 SIIM Annual Meeting. As Team Lead, I was directly involved in the requirements gathering or development for the following projects:

- **Forms on FHIR** (2019) - provides a UI for directly creating and editing FHIR resources for populating an AI-ready research FHIR server.
- **Follow-up of Noncritical Actionable Findings** (2019) - automated notification of primary care providers that important findings which are not critical for patient intervention at the time of the study are contained in radiology study. *This project placed 3rd at the 2019 SIIM Hackathon.*
- **Synoptic Reporting as an Enabler** (2018) - converts a synoptic (structured and coded) radiology report into a FHIR resource for storage in a FHIR server.

Ultrasonic uCOS



An ultrasonic sensor can be used to sense the proximity of an object. This project was written in C and MicroC/OS-II on an Arduino Uno. Data is transmitted through via serial port back to a computer and displayed through a Python GUI.

WORLDLY EXPERIENCE

ENGINEERING WORLD HEALTH - SUMMER INSTITUTE

On the Ground Coordinator - Uganda 2018

- Instructed a mixed cohort of students from the Duke Engage program and 5 top-ranked Makerere University engineering students.
- Coordinated training and cultural experiences with Ugandan partners in Central and Eastern Uganda.

On the Ground Coordinator - Rwanda 2017



- Improved teaching materials for the 4 week in-country device repair and design in constrained environments course; TA'd the 4 week in-country course.
- Supervised and assisted the participants at their placement hospitals throughout rural Rwanda.
- Compiled reports on all placement sites that included an equipment inventory, equipment service report, and a final presentation of work and experiences from each of the participant groups.

Volunteer Biomedical Equipment Technician (BMET) - Rwanda 2016



- Spent 4 weeks studying medical device repair and design in constrained environments at IPRC in Kigali, Rwanda.
- Worked for 5 weeks in a BMET workshop in rural Rwanda, inventorying over 340 pieces of equipment and achieving a repair success rate of 74%, the best success rate of the program.

REFERENCES

available upon request