Peter N. Dobbs

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EDUCATION

Master of Science, Computational Sciences — GPA: 3.7/4
Marquette University Graduate School, Milwaukee, WI, expected May 2020

Bachelor of Science, Biomedical Engineering - Biocomputing — GPA: 3.5/4
Marquette University Opus College of Engineering, Milwaukee, WI, May 2018

PROFESSIONAL EXPERIENCE

Marquette Energy Analytics, LLC, Milwaukee, WI

Product Owner and DevOps Engineer — October 2018 - present

- Product owner of customer-facing data access and visualization tools.
- Deploying regular updates for forecasting models on the cloud.
- Primary contact for licensed products at five of our customer sites.
- Culture-influencer within a recent startup.

GasDay Project at Marquette University, Milwaukee, WI

Graduate Research Assistant — August 2018 - present

- Involved in weekly seminar discussions of papers related to lab research

Application Developer — August 2016 - October 2018

- Created an Excel Add-In in C# for data access, analysis, and visualization.
- Collected feedback from users at various companies nationwide.

Application Support Specialist — June 2015 - October 2018

- Deployed regular updates to the energy demand forecasting AI models.
- Developed automation tools that decreased deployment time by over 20%.
- Led process improvement for product testing and team exchanges.

WORLDLY EXPERIENCE

Engineering World Health

On the Ground Coordinator - SI 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 - SI 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 Equiment Technician (BMET) - SI Rwanda 2016

- Four weeks studying medical device repair and design in constrained environments at IPRC in Kigali, Rwanda.
- Five weeks volunteering 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.

COMPUTER SPECIALTIES

Languages: C#, SQL, Python, R, Matlab, HTML/CSS/PHP
Concepts: Agile, CI/CD, RESTful API
Technologies: Git, Atlassian/Jira, TeamCity, Crucible
Platforms: AWS, Azure, Windows, Linux, MicroC/OS-II
Standards Practiced: HL7, DICOM, IHE

FEATURED PROJECTS

Expectation Maximization Algorithm
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.

Parallelizing Genomic Sequence Alignment
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.

EMR6050: Web Solution for an Urban Mental Health Clinic
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.

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 and development of projects that won the hackathon in 2018 and placed third in 2019.

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.

EXTRA-CURRICULAR ACTIVITIES

Marquette Birdhouse - Primary D-Line Handler — Fall 2016 - present
Playing for Marquette's D1 Ultimate Frisbee team. Fostering a fun but competitive atmosphere for developing student-athletes. We have reached the regional-level tournament in each season I have played.

Milwaukee Revival - Captain, Handler — Summer 2019 - present
Captained a summer club Ultimate team through its inaugural season. Developed positive relationships between players within the Milwaukee Ultimate Community who also play on rival college teams.

Marquette University Core Band - Drums & Percussion — Fall 2014 - Spring 2017
Exceeded the required attendance by playing at over 50% of all pep-band assigned events, including pep rallies and home volleyball and basketball games. Travelled with the Marquette Basketball and Volleyball teams to perform at various post-season tournaments. My favorite moment was getting to play in Madison Square Garden.

REFERENCES

available upon request