Peter N. Dobbs

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PROFESSIONAL EXPERIENCE

Canon Medical Informatics, Inc, Minnetonka, MN

Senior Product Analyst February 2025 - May 2025

- Highly visible role with end-to-end ownership of platform development across global teams (Minnesota, Japan, Edinburgh)
- Data analysis and visualization in Python
- Continuously maximizing product value and quality
- Experimenting with new product capabilities and customer experience (CX)
- Making data-driven decisions based on product usage and performance
- Collaborating with SMEs to share technical and medical industry knowledge with product teams

Software Engineer February 2022 - February 2025

- Developing data pipelines for integration with external PACS/VNA services
- Driving collection and analysis of product usage and performance data
- Collaborating with Product Managers and various Stakeholders across the globe to construct product roadmaps
- Implementing compliance to the latest Cybersecurity Guidance from the FDA
- Leading defect review board and product hazard analysis activities
- Defining and implementing new processes for handling vulnerabilities reported against an SBOM

Associate Software Engineer May 2020 - February 2022

- Designed and implemented data model for financial and operational analysis of medical imaging departments
- Developed custom Apache NiFi processors to drive ETL
- Created visualization of hospital operations with Elasticsearch and Kibana

Marquette Energy Analytics, LLC, Milwaukee, WI

Software Developer October 2018 - May 2020

- Primary contact for licensed products at five of our top customer sites.
- Developer of data access and visualization tools.
- Responsible for deploying regular updates for forecasting models on the cloud.
- Culture-influencer within the startup.

EDUCATION

Master of Science, Mathematical, Statistical, and Computational Sciences
Marquette University Graduate School, Milwaukee, WI, Spring 2021

Bachelor of Science, Biomedical Engineering - Biocomputing
Marquette University Opus College of Engineering, Milwaukee, WI, May 2018

APPLIED SKILLS

Programming Languages: Python, SQL, R, Matlab, C#, Java
Data Analytics: PyTorch/TensorFlow, Jupyter, RStudio, PowerBI, NiFi, Elasticsearch/Kibana, Apache Spark, LangChain
Development: Git, Agile Scrum, CI/CD, Deon Ethical Checklist
CySec: Risk Analysis, CVSS, EPSS, VEX, SBOM, CycloneDX, DependencyTrack
Platforms: Windows, Linux, AWS, Azure
Health Standards Experience: HL7 v2, HL7 FHIR, DICOM, IHE

PUBLICATIONS

Towards Developing an EMR in Mental Health Care for Children's Mental Health Development among the Underserved Communities in USA. 2021
Kazi Zawad Arefin, Kazi Shafiul Alam, Masud Rabbani, **Peter Dobbs**, Leah Jepson, Amy Leventhal, Amy Van Hecke and Sheikh Iqbal Ahamed
arXiv preprint arXiv:1706.06969

FEATURED TALKS

DICOM For Informaticists, Part 1

DICOM For Informaticists, Part 2

Pair of recorded lectures, created as a part of the SIIM CDI Series, introducing DICOM to aspiring Clinical Data Informaticists.

SIIMcast Episode 49: Hackathon 2

In Spring of 2020, I was invited to speak about my experiences at the SIIM Hackathon and advocate for others to participate.

Nyandwi Muzungu: Medical Device Repair in Constrained Environments

In November 2019, I was invited to give a talk as a part of the Global Innovation Seminar Series at University of Wisconsin. The event coordinators asked me to share some of my experiences from my trips to East Africa.

FEATURED PROJECTS

Daily Coding

Keeping my skills fresh and learning new ones. Lately I've been playing around with Generative AI.

Object Tracking

Experiments with and implementations of object detection and tracking. The main focus is on analyzing film of ultimate frisbee games, but I also have been extending my experience with eye tracking (continuing from my Eye Tracking project).

Eye 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++.

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.

REFERENCES

available upon request