

Kymry Burwell

MS in computer science with a passion for developing software for applied sciences. 5 years of work experience in software engineering, data engineering and IT analyst roles.

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EDUCATION

MS Computer Science

Computational Algorithms

Selected Coursework: mathematical modeling, machine learning, data structures, combinatorial search algorithms, distributed systems, Polytechnic University of Catalonia | 2017 - 2019 | Barcelona, Spain

BA Business Administration

Management Information Systems

Web development coursework
Western Washington University | Washington, USA

SKILLS

Programming Languages

proficient: Python, Java *intermediate:* C++, R, SQL *familiar:* Bash, Erlang

Technical Skills

algorithms | data structures | object oriented programming | design patterns
artificial intelligence and machine learning | data pipelines | version control

Frameworks/Databases

familiar: SQL Server | MongoDB | Apache Spark | Docker | Scikit-learn | Tensorflow

EXPERIENCE

Software Engineer Intern - Artificial Intelligence *National Institute of Informatics | 02/19 - 08/19 | Tokyo, Japan*

- Researched, designed, and developed an algorithm (in Java) for autonomously rerouting drones while in flight
- Algorithm was developed using test-driven development and interacts with drones via an Android app and GPS coordinates
- Used state of the art multi-agent pathfinding algorithms (e.g. CBS) to find optimal routes for thousands of drones in real-time
- Validated the research and efficacy of the system through experimental testing using realistic simulations and industry data

Data Engineer / Data Scientist *Limeade | 09/15 - 06/17 | Seattle, USA*

- Developed small scale, custom data pipelines for enterprise customers including data cleaning, batch import/export from Limeade's software as a service system, and automated analytic reporting
- Wrote complex SQL queries for ad-hoc customer data analytic and reporting requests in SQL Server and Amazon Redshift
- Utilized both supervised and unsupervised machine learning algorithms to predict factors contributing to employee engagement and happiness in the workplace using R and Python

IT Analyst *SightLife | 02/15 - 09/15 | Seattle, USA*

- Worked collaboratively with data architect to create a custom data management strategy for a rapidly growing company
- Solicited requirements from operational business units for the design and implementation of a data warehouse

Software Developer / Systems Analyst *Liberty Mutual Insurance | 06/12 - 12/13 | Seattle, USA*

- Used Java and the Selenium testing framework to create automated tests for pre-production code checking on web applications. The system significantly reduced testing cost and time allowing code to be shipped more quickly
- Worked with business development team to understand needs and develop goals for future product improvement initiatives

ACADEMIC and PERSONAL PROJECTS

Combinatorial Optimization to solve an NP-hard problem

- Developed three programs to optimally solve a 2D variation of the NP-hard bin packing problem
- Programs were written in C++ and include: Constraint program (Gecode), Linear program (CPLEX), SAT program (Lingeling)

Web application in Python and Flask (in progress)

- Building a web application in Python with a Flask backend, Javascript and Bootstrap frontend, MongoDB and SQLite for data storage and Docker for easy deployment.
- Application aggregates data from third-party astronomical APIs, allows users to create accounts and subscribe to APIs of their choosing. Once subscribed, a daily email with the newest data from the user's subscriptions is sent to their inbox.