Emily (Yi-Hsin) Hsu

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EDUCATION

University of Washington, Bothell, WA
M.S. in Computer Science & Software Engineering, GPA: 3.7 09/2017-06/2020
Graduate Certificate in Software Design & Development 09/2016-06/2017
University of Washington, Seattle, WA
B.S. in Biochemistry, Minor in Chemistry 09/2008-08/2011

SKILL

Languages: Java, C++, Python, SQL, R, JavaScript/HTML/CSS, JSON/XML
Software/Tools/OS: Django, Flask, Angular, Hadoop, Spark, Scikit-learn, MySQL, Matlab, CUDA, Git/Github, Linux
Courses/Skills: Data structures, Object-oriented design, Web development, Database systems, Machine learning, Operating system, Software development processes, Serialization, Parallel programming, Bioinformatics algorithms

EXPERIENCE

Software Engineer, T-Mobile, Bellevue, WA 01/2020-Current
- Worked in the Radio Access Network (RAN) Automation team to build software tools/infrastructure to facilitate product/network testing and measurement
- Developed an large-scale license management system using Python Flask to automate license request process and manage all shared licenses used in multiple teams
- Worked on scale up the system to include various types of licenses and provide license usage reports for future license purchase planning

Software Engineer Intern, T-Mobile, Bellevue, WA 06/2019-09/2019
- Developed a full-stack web app using Python Django and Chart.js to visualize lab cell utilization data in replace of manual data analysis processes which helped the team identify low used cells
- Built a date range filter to provide customized visualization for understanding cell usage at different time frames
- Designed the data processing workflow from creating database schema to automating data import

Data Scientist, Tata Consultancy Services, Bellevue, WA 02/2019-06/2019
- Analyzed revenue data and supported building sales forecasting models using R/Python for Microsoft Finance BI team

Process Engineer I (R&D), NanoString Technologies, Seattle, WA 06/2016-02/2018
Shift Lead, Research Associate I/II (Manufacturing), NanoString Technologies, Seattle, WA 05/2012-06/2016

PROJECT

Serialization/Deserialization in Complex C++ Programs (Individual project) 04/2019-12/2019
- Implemented serialization/deserialization for a C++ neural network simulator program
- Analyzed complex code base to identify targeted objects and design the serialization workflow
- Utilized a C++ open-source library to serialize various types of objects in XML format
- Evaluated the function by comparing serialization/deserialization with an non-interrupted run to verify the process doesn't affect operation

NemoSuite: A Web-based Network Motif Detection Application (Team project) 04/2019-06/2019
- Built a web app to provide network motifs (frequent sub-graph patterns) from a biological network graph
- Developed the front-end using Angular to create an interactive web page for users to upload graphs and select motif size; designed the back-end using Spring framework to calculate motifs and generate result reports
- Tested on different size of graphs to ensure the software quality

Cancer Type Prediction and Classification (Individual project) 10/2017-02/2018
- Developed cancer prediction models using Python Scikit-learn library (5 machine learning algorithms were used) to classify 33 cancer types based on patient genomic data
- Used data pre-processing techniques including feature selection, normalization, under-sampling/over-sampling
- Analyzed models by comparing accuracy scores, training time, precisions, and recalls to identify the best classifier at 95.8% accuracy rate

NQE Hackthon, T-Mobile, Bellevue, WA (Team project) 07/2019-07/2019
- Provided a web-based solution using Django to reset the testing configuration automatically

Hack the Now & Next: AI edition, Globant, Seattle, WA (Team project) 02/2018-02/2018
- Created a solution to provide food images based on word descriptions on restaurant menu by using Microsoft Cognitive Services to interpret texts

CONFERENCE PAPER

Y. Hsu and D. Si*, *Cancer Type Prediction and Classification Based on RNA-sequencing Data*, IEEE Engineering in Medicine and Biology Society (EMBC) 2018. (Oral Presentation)