

Meredith Ju

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EDUCATION

Cornell University, College of Engineering

Aug 2019 - May 2023

- Pursuing a Bachelor's degree in **Computer Science** and **Mathematics** (minor).
- Relevant courses:
 - Object-Oriented Design and Data Structures (Honors), Data Structures and Functional Programming, Discrete Structures, Theory of Computing
 - Digital Logic and Computer Organization, Embedded Systems, Operating Systems, Database Systems, Computer Networks
 - Linear Algebra, Probability and Statistics, Cryptography, Number Theory
 - Artificial Intelligence, Machine Learning, Computer Vision

WORK EXPERIENCE

Workday

I was in the Prism Analytics team, which provides a data hub with intuitive tools for getting insights from disparate data sources.

May 2022 - Aug 2022 **Software Development Engineer Intern**

- Developed a query plan comparison tool that quantitatively pinpoints query plan differences which facilitates debugging of performance regression
- Created a performance analysis tool which identifies system bottlenecks, e.g. uneven data partitions, in query plan execution

Computer languages and technologies: Scala, Python, Spark, HTML

Microsoft

Microsoft Bing is a search engine. I worked as a software intern in Bing's *Answers*, *Segments*, and *Knowledge* team for two summers in a row.

Jun 2021 - Aug 2021 **Software Engineer Intern**

Designed and implemented dynamic filter generation based on search query results for Bing Recipes, including:

- Processed and ranked extracted metatags from recipes to determine which tags to use as dynamic filters
- Implemented the on-click behavior so that dynamic filters would properly modify the TLA query

May 2020 - Aug 2020 **Explore Intern**

- Improved data extraction for Bing Recipes to determine daily changes of recipes from providers
- Designed a diet and allergen filter and an ingredient search feature in Bing

Computer languages and technologies: C#, Cosmos DB, XAP, SCOPE, Aether

MarkLogic, San Carlos, CA - *Software Engineer Intern*

MarkLogic is a software company that provides data integration solutions to Fortune 500 enterprises.

Jun 2018 - Aug 2018

- Learned about Data Hub Framework (DHF), a data integration software that curates disparate data sources into one unified data platform
- Made architectural improvement to DHF by isolating schemas for staging and curated data
- Made multiple bug fixes in DHF that span across backend, middle-tier and front end

Jul 2017 - Aug 2017

- Built a Java tool to aggregate and analyze stress test results from a browser, eliminating manual work by the stress test team and pinpointing errors occurred during stress tests

Computer languages and technologies: Java, JavaScript, HTML, SCSS

ACADEMIC PROJECTS

Autonomous Bicycle, Cornell Robotics Project Team

Oct 2019 - May 2022

- Processed data from a ZED camera to produce a point cloud and an occupancy grid with real-time image mapping in Robot Operating System (ROS)
- Created a visual component to an autonomous bicycle and implemented obstacle avoidance.

Computer languages and technologies: C++, ROS

Course Projects

Stereo

Created a 3D mesh from a normal map or depth map given images from different viewpoints and different lighting conditions.

Motion-Controller for Tetris

Created a microprocessor program that reads data from an accelerometer to determine direction commands that are sent via UART to a Python Tetris program

Microprocessor

Implemented a microprocessor from scratch, including building a combinational arithmetic logic unit and extending the processor to include branching and halting logic.

Computer language: C, Assembly Language, Python, UART, Verilog