

Jialing Wu

jialing.wu@live.com | [linkedin.com/in/marinda0](https://www.linkedin.com/in/marinda0) | muzhibryn.github.io/HomePage/

EDUCATION

Dartmouth College

M.S. in Computer Science (Full Scholarship)

(Sep 2019 - March to Jun 2021)

(Coursework: smartphone programming, full-stack web development, data mining, network science and complex systems, human-computer interaction, security and privacy, software design & implementation, machine learning, deep learning, algorithm, object oriented programming)

WORKING EXPERIENCE

Futurewei Technology Inc.

Boston, US

Research Intern(Software Engineer) in Technology Planning Division

June 2020 - Sep 2020

- Developed and implemented an energy-driven system to intelligently filter and upload data with LSTM model.
- Built an interactive system of cloud learning with unsupervised feature embedding to guide multimodal edge data sensing for better decision making. Utilized federated learning to achieve user-end data privacy protection.
- Coordinated with researchers, engineers, and legals to achieve patent issuing. Managed weekly group meetings to prioritize tasks, unblock progress, and meet milestones.

[Patent] Power Efficient Agent Monitoring Devices And Methods(**First Author**, patent number is PCT/US2020/049060)

[Patent] System and Methods of Federated Learning with Diversified Feedback(patent number is PCT/US2020/066436)

DartNets Lab, Computer Science Department at Dartmouth

Hanover, NH, US

Research Assistant

Jan 2019 - Dec 2020

- Collecting Photoplethysmogram (PPG) data and predicting stress status from it. Implemented a data collecting platform using Android, Flask and MongoDB. Collected real-time PPG from an Android smart watch. Applied bandpass signal processing (Python) and Deep Neural Network (Keras, Tensorflow) on the PPG data. Achieved an accuracy of 75% in classifying stress status.
- Smartphone sensing and health. Developed backend pipelines (bash, python, MongoDB) to process the longitudinal activities, location, collocation networks, phone usage and sleep data collected from mobile phones among 200 college students. Performed statistical and time series analysis (Jupyter, sklearn) to reveal the mental health and behavior changes [published on [JMIR, 2020\(6\)](#)] and a transition of social interaction from in-person to online with an accuracy of 73% during the COVID-19 Pandemic.
Improved social functioning impairment prediction by 20% on average using smartphone sensor data compared with a baseline without using it [published on **CHI'20**].

SELECTED COMPUTER SCIENCE PROJECTS

Full-Stack Web Development (React, Redux, CSS/SCSS, HTML, Ajax, Babel, NodeJS, MongoDB)

Project 1: Developed a realtime collaborative post-it note app Using *React, ImmutableJS* and *Firebase*.

Project 2: Developed an Instagram-like web platform where users can sign-up, log-in/out, post pictures, and like others.

- Frontend: a *Create+Update+Delete (CRUD)* style blogging app using *React* and *Redux* and *React-Router*; designed draft via *Figma*, and built through *Webpack, Babel* and *ESLint*.
- Backend: a *Nodejs+Express+Mongo* based API server to provide *Restful API*; authentication enabled using *PassportJS*.

Project 3: Developed a [chrome extension](#) using *React* to manage tabs on browser (i.e., grouping similar tables and merging duplicate ones) and sync tab groups with the server.

MyRuns (Java, Android, SQL, BAAS)

Developed an Android app that infers user exercise data using Google Activity Recognition APIs. Implemented well-organized MVC structures including xml based UI (view), Android Activity and Fragment life cycle (controller), Android service which enables reading mobile sensor data in the background when the phone is even locked (service), and models with O/R mapping to a local SQL database that consistently synced with Firebase cloud to enhance data persistence.

Tiny Search Engine (Linux, C programming, Shell, Network)

Accomplished a prototype of mini search engine with crawler, indexer and querier in C.

SKILLS

Languages: Python, Java, C, JavaScript, Shell, HTML, CSS3, XML, R, SPSS

Tools: Android, React, Redux, NodeJS, Django, Flask, MySQL, MongoDB, Git, Jupyter, sk-learn, TensorFlow, PyTorch, Latex, Docker