

Weida Zhong

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Education

Ph.D., Computer Science and Engineering, University at Buffalo, GPA 3.8/4 May 2021
Master, Computer Science and Engineering, University at Buffalo, GPA 3.8/4 September 2015
Bachelor, Electronic Engineering, University of Science and Technology of China June 2012

Research Experience

Pothole profiling through reliability aware truth discovery

- Built an Android app in Java to collect both smartphone's sensory data and vehicle's OBD data.
- Built an Apache HTTP server using PHP, which accepts collected data uploaded from the Android app through HTTP POST request.
- Proposed an unsupervised machine learning method to aggregate conflicting reports from different sources, which improved the accuracy of pothole length inference by over 30%.

Traffic prediction with missing values via Graph Convolutional Networks

- Proposed a heterogeneous spatio-temporal prediction framework for traffic prediction.
- Implemented two pass Recurrent Neural Network for missing data imputation.
- Built multiple graphs to explicitly model the dynamic correlations among road segments from both geographical and historical aspects.

Traffic prediction with unevenly-distributed data using Meta-learning

- Deployed the Android app onto 15 Stampede buses and 3 NFTA paratransit shuttles.
- Created a program using OpenCV to count the number of vehicles from live video stream.
- Proposed a MAML based meta-learning framework written in PyTorch to make traffic prediction for regions with very limited data.

Work Experience

Research Intern, Shenzhen Institutes of Advanced Technology, China July 2017 – August 2017

- Created programs using Spark to analyze hundreds of millions of travel records from Shenzhen Metro.
- Explored the relationship between the moving pattern of crowd and different functional zones of the city.

Software Developer, Epic Systems Corporation, Madison, WI November 2015 – July 2017

- Developed Electronic Health Record (EHR) to simplify the process of medication administration.
- Designed and implemented functions to properly handle the printout of complicated forms.
- Visibly improved the loading speed of medication history for patients with very long hospital stay.
- Conducted development under ASP.NET framework, following Model-View-Controller (MVC) design pattern. Created views using HTML, CSS and JavaScript. Built controllers in C#. Wrote database manipulation functions with M programming language.
- Visited multiple hospitals to observe daily usage of our system, and took feedback from end users to improve the overall service quality and system usability.

Software Developer Intern, Broadcom Corporation, Irvine, CA June 2015 – August 2015

- Developed a program in C/C++ Socket to enable the communication with a power probe board.
- Integrated the program with the existing testbed so as to improve the overall testing efficiency.

Technical Skills

Languages: Python, Java, C/C++, C#, JavaScript, HTML/CSS

Development Tools: Git, Docker, Google Cloud Platform, Conda

Libraries: PyTorch, TensorFlow, pandas, NumPy, Matplotlib

Selected Publications

- [1] **Weida Zhong**, Qiuling Suo, Fenglong Ma, Yunfei Hou, Abhishek Gupta, Chunming Qiao, Lu Su, "A Reliability-Aware Vehicular Crowdsensing System for Pothole Profiling," in *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, Issue 4, December 2019.