Weiran Huang

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Education

Beijing University of Posts and Telecommunications (BUPT)

Beijing

B.Eng. in Computer Science and Technology, GPA: 88.23/100, Rank: 25/315 — *2016 – 2020(expected)*

- **China Undergraduate Mathematical Contest in Modeling**, 2nd prize in Beijing district — *Fall 2018*
- **Undergraduate Scholarship granted by BUPT**, Top 10% — *2017–2019*

Experience

Microsoft Research Asia

Beijing, China

(Incoming) R&D Intern — *Feb. 2020 – Jun. 2020*

I will join the ARD Incubation Group at MSRA working on Spatial-Temporal Prediction problems for traffic scheduling and resource optimization from Feb. 11th 2020.

MOMO Inc

Beijing, China

3D Reconstruction Intern — *Sept. 2019 - Jan. 2020*

- Developed a real-time face tracking tool which introduced dynamic rigidity prior to 3D face reconstruction, increased the stability score by **25.7%** under drastic poses and expressions.
- Translated an existing MATLAB project into C++ using OpenCV, and modularized the code for easier maintenance and higher efficiency.
- Replaced the projection method in our face-changing app, "ZAO" with perspective projection, increased the reconstruction accuracy by **11.4%**.

Penn State University

State College, PA

Research Assistant, mentored by Prof. Suhang Wang — *Jul. 2019 - Aug. 2019*

- Extensively studied several academic papers published in top conferences on graph adversarial learning.
- Implemented several graph adversarial attack algorithms in Python, achieved comparable results as reported in papers but lower overhead.

Institute of Automation, Chinese Academy of Sciences

Beijing, China

Research Assistant, mentored by Dr. Shu Wu — *May 2018 - May 2019*

- Actively participated in several research projects on recommender systems and graph mining.
- Proposed a novel Graph Convolutional Network variant *GraphAIR* with cooperators, which is the first to explicitly take into account the non-linear neighborhood interactions. The paper of *GraphAIR* has been submitted to TKDE, preprint available **here on arxiv**.
- Implemented *GraphAIR* in Tensorflow, and it outperformed all baselines by significant margins on node classification and link prediction tasks, ranking **first, second and fourth** on 3 benchmark datasets respectively on `paperswithcode.com`.

Projects

SimpleDNS

Course Project of Computer Networks (Python) — *Jun. 2019*

- A simple DNS server written in Python, compatible with Windows, Linux and MacOS.
- Developed with multi-threading to deal with concurrent queries, achieved fast retrieval and high robustness.
- Supported both ipv4 and ipv6, local and recursive external queries to make it more fully-functional.

FaceMask

Individual Project (MATLAB) — *Dec. 2018*

- An AR face tracking tool which generates real-time masks over human faces in the video.
- Utilized convex optimization to predict 3D coordinates with 2D face landmarks for face reconstruction.

WeBBS

Course Project of Object-Oriented Programming (C++) — *Oct. 2018*

- A BBS application built with C++ and Qt5.
- Led a team of three to co-develop, adopted Feature-driven Development for effective cooperation.
- Employed object-oriented programming and several design patterns, decoupled front-end and back-end using QSocket.

Skills

Languages C/C++, Python, Golang, JavaScript, MATLAB, SML, SQL
Frameworks/Tools Flask, SQL Server, Tensorflow, Pytorch, Scikit-Learn, OpenCV, Git, LaTeX, Qt, CMake