Jiayuan Huang

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Education

Zhejiang University   Hangzhou, China
BE, Electronic and Computer Engineering   Sept 2017 – June 2021
- Overall GPA: 3.82/4.00
- Selected Honors: Top 20 of Student Academic Achievements of Zhejiang University (2020), 3rd Scholarship of Zhejiang University (2018, 2017), Best Paper Award (ICEBE 2019).

University of Illinois at Urbana-Champaign (ZJU-UIUC Institute)   Champaign, IL
BS, Computer Engineering   Sept 2019 – June 2020
- GPA: 3.72/4.00
- Highlight Coursework: Data Structures & Software Principles(A+); Computer System & Programming(A); Artificial Intelligence(A+); Natural Language Processing(A)

Publications

- Yangkai Du, **Jiayuan Huang**, Shuting Tao, Hongwei Wang "Knowledge Graph Construction for Intelligent Maintenance of Power Plants," 28 Nov 2019, *Advances in E-Business Engineering for Ubiquitous Computing (ICEBE 2019).*
- Tingyu Xie, **Jiayuan Huang**, Yangkai Du, Shuting Tao, Qi Li, Hongwei Wang "A Deep-Learning Based Framework for Construction and Reasoning of Knowledge Graph from Power Plant Operation Report" (in submission).

Research Experience & Projects

Knowledge Graph Complementation and Dialogue System   **Supervisor:** Prof. Pengtao Xie
ECE Department, UCSD   June 2020-Present
- Common-sense knowledge graph (CKG) is needed to develop commonsense-grounded NLP applications, but it is time-consuming to manually constructed CKGs.
- Proposed several approaches which leveraged the high-order structure in CKGs to capture the high-order relationships between concepts. Human evaluation and automatic evaluation results demonstrated the effectiveness of our methods. Paper under submission to TACL.

Digital System Laboratory   **Supervisor:** Prof. Chushan Li
ECE Department, Zhejiang University   May 2020-Sept 2020
- Designed and implemented a game based on FPGA board in collaboration with a team, including game logic and drivers for peripheral equipment in C and FPGA programming in System Verilog.
- Implemented an advanced version of the original Pacman game, focusing on adding multi-player mode and designing Ghost AI in System Verilog.

Knowledge Graph Construction for Intelligent Maintenance of Power Plant   **Supervisor:** Prof. Hongwei Wang
ECE Department, Zhejiang University   Apr 2019-June 2020
- Extracted data from massive non-structured power plant maintenance reports and built a knowledge graph on the relationship between knowledge entities; Established a framework for knowledge graph for power plants with AI Design and Manufacturing, Knowledge Grant Construction, Mining and Retrieval, Knowledge Management and Knowledge-Based Engineering.
- Applied Bi-LSTM-Lattice Model to extract named entities on power plants filed and compared with other models in strengths and weakness.
- Published *Knowledge Graph Construction for Intelligent Maintenance of Power Plant* in ICEBE 2019 as the second author; **Awarded Best Paper Award**

Design of Operating System   **Supervisor:** Prof. Steven S. Lumetta
ECE Department, University of Illinois at Urbana-Champaign   Sept 2019-Dec 2019
- Implemented x86-based operating system from scratch in collaboration with a team, including memory paging and segmentation, drivers of peripheral equipment and multi-process scheduling.
- Developed file system and multi-process scheduling; wrote drivers for keyboard and RTC in C

Industry Experience

Zhejiang Feirong Robot Science and Technology Co., Ltd.   Hangzhou, China
Test Engineer   June 2018-Jul 2018
- Responsible for writing test scripts, maintaining test environment, generating test reports of cloud platforms.
- Collaborated with developers to identify defects and optimize products.

Community Services & Extracurricular Activities

- ***Reviewer,*** invited as a reviewer in Thirty-Fifth AAAI Conference on Artificial Intelligence   Nov. 2020
- ***Assistant Supervisor***, UIUC graduate class of exchange students in Zhejiang University   Aug. 2020-Present
- ***Volunteer Leader***, Rural Community Development Program, Sri-Lanka   Aug. 2018

Additional Information

- Computer Skills: Python, C++, C, MATLAB, TensorFlow, PyTorch, Git
- Interests: Erhu (Level 10 of National Erhu Performance)