

Shao-Ching (Jason) Huang

JUNIOR UNDERGRADUATE, COMPUTER SCIENCE, NTU

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EDUCATION	National Taiwan University(NTU) , Taipei, Taiwan <i>Computer Science and Information Engineering</i> GPA: 4.11/4.3 (Overall) Coursework: Data Structure and Algorithm(A ⁺), Algorithm Design and Analysis(A), System Programming(A ⁺), Operating System(A ⁺), Machine Learning(A ⁺), Web Programming(A ⁺) <i>Sep' 19 - Jun' 23 (Expected)</i>
INTERNSHIP EXPERIENCE	HTC <i>Software Engineer Intern</i> Taipei, Taiwan <i>Jun '21 - Aug '21</i> <ul style="list-style-type: none">- Developed helper tools to increase workflow efficiency with <i>Node.js</i> and <i>Python</i>.- Developed and maintained frontend website structure of multiple websites.- Tested and modified webpage contents to improve pagespeed.
RESEARCH PROJECTS	Deep Learning for Human Language Processing <i>Supervisor : Prof. Hung-Yi Lee</i> <i>Feb '22 - Present</i> <ul style="list-style-type: none">- Studied and implemented some forward-looking technologies of human language processing, such as ASR, TTS, self-supervised learning, meta learning, etc. Intersection Management with Reinforcement Learning <i>Supervisor : Prof. Chung-Wei Lin</i> <i>Feb '22 - Present</i> <ul style="list-style-type: none">- Using a graph-based model to simulate real-world intersections.- Applied Q-learning on scheduling problems of intersection management to achieve deadlock-free scheduling policy with performance improvements.- Considered the recovery process of deadlock if vehicles violate instructions. SAC Highway Driving <i>Supervisors : Prof. Chi-Sheng Shih</i> <i>Sep '21 - Feb '22</i> <ul style="list-style-type: none">- A follow-up project of an existing paper about using RL on highway car-following prediction.- In addition to car-following, lane-changing behaviors are also predicted in the model.- Soft Actor-Critic(SAC) was chosen to be the RL architecture.
COURSE PROJECTS	RISC-V Pipelined CPU <i>Course : Computer Architecture</i> <ul style="list-style-type: none">- Implemented a pipelined CPU with RISC-V assembly. The CPU can detect data / control hazards and use an L1 data cache for faster memory access. Approaches and Analysis on Chinese Zhu-Yin Decoding <i>Courses : Digital Signal Processing</i> <ul style="list-style-type: none">- Implement and compare the performance of the traditional HMM model and the modern BERT model on the Chinese Zhu-Yin decoding task.- Plan to deploy public Zhu-Yin-Wen(注音文) translation service in the future.
TECHNICAL SKILLS	Programming Languages: C/C++, Python, Assembly(RISC-V), JavaScript, HTML/CSS Web Development: jQuery, ReactJS, Django, MongoDB AI/ML: PyTorch, Tensorflow Developing Tools: Git, Docker