XIN HU

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OBJECTIVE

- First-year master's student in Electrical and Computer Engineering
- Experienced in Signal Processing and Machine learning and studying Front End and Back End Development
- Seeking **a summer 2020 internship in Software Engineering**

EDUCATION

University of Michigan, Ann Arbor, MI
Master of Science in Electrical and Computer Engineering — Sep 2019 – Apr 2021
Study track: **Signal Processing and Machine Learning**

Northwestern Polytechnical University (NWPU, 211&985 project), China
Bachelor of Engineering in Electrical Engineering and Automation — Sep 2015 – Jun 2019
GPA 91.55/100 (3.87/4.0)

University of Michigan, Dearborn, MI
Exchange student for 1-year — Sep 2018 – Apr 2019
GPA 4.0/4.0

Coursework
In progress: **Design of Complex Websites; Database Application Design**; Matrix Methods for Signal Processing, Data Analysis and Machine Learning, Computer Science: Programming with a Purpose (coursera), Algorithms, Part I (coursera)
Completed: C++ Programming, Intro to Python, Analog & Discrete sig & sys, Digital Signal Processing

RESEARCH EXPERIENCE

Driving Stress Evaluation and Correlation Analysis with Cognitive Test Score, **funded by Toyota Research Institute**
Nov 2018 – Apr 2019
Research Assistant *at Intelligent Systems Lab* — *University of Michigan-Dearborn, USA*

- Calculating the stress level of 21 drivers, including Mild Cognitive Impairment (MCI) and healthy drivers on different scenarios (like freeway flow, parking lot, Ramp) based on physiological signals, i.e., heart rate, breathing rate.
- Analyzing the Correlation between drivers' stress level and their cognitive test scores and finding that driver's stress level is negatively correlated with cognitive scores and is mainly affected by fluid cognitive ability.
- Designing a **convolutional neural network (CNN)** to detect driver's stress levels with physiological signals and the model's accuracy is greater than **90%** and can reach **92%** after dividing drivers with similar cognitive ability in the same group.

Drivers' Intersection Analysis, **funded by Toyota Research Institute** — Nov 2018 – Apr 2019
Research Assistant *at Intelligent Systems Lab* — *University of Michigan-Dearborn, USA*

- Writing python code for stop detection and output the exact intersection that the driver stopped.
- Classifying the unprotected turn left detection situation and analysis the correlation with stress level.

Workload Label for Real Driving Conditions, **funded by Ford Motor Company** — Oct 2018 – Apr 2019
Research Assistant *at Intelligent Systems Lab* — *University of Michigan-Dearborn, USA*

- Writing synchronization MATLAB code for different frequency data recorded by 5 devices to 10 Hz.

COMPUTER SKILLS

Programming Languages:	Python, C/C++, Java, MATLAB, HTML, JavaScript
Applications:	SPSS, Psim, Photoshop
Framework:	Django

SELECTED HONORS & AWARDS

Outstanding Research Paper Award from Northwestern Polytechnical University — Jun 2019
Outstanding Graduate from Northwestern Polytechnical University — May 2019