

Jieru Hu

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EDUCATION

University of Wisconsin Madison

Bachelor of Engineering - Mechanical Engineering
Bachelor of Science - Computer Science
Bachelor of Science - Mathematics

Madison, WI

Aug 2013 – May 2018

GPA: 3.85/4.00

Dean list every semester

EXPERIENCE

• Undergraduate Research Assistant

Madison, WI

Wisconsin Human-Computer Interaction Laboratory

September 2017 – June 2018

- Implemented the trajectory motion planning for the 6-DOF Kinova MICO arm with MoveIt framework
- Developed ROS python scripts for controlling MICO Arm to execute different industrial manufacturing tasks
- Designed and built the communication interface between NodeJS UI server and Python Http server

• Software Engineering Internship

Seattle, WA

Amazon

June 2017 - August 2017

- Designed and implemented Screenshot Sharing feature within Kindle iOS App into production with Objective-C
- Built Coral service APIs in Java for storing Encoded Voice data into AWS S3 bucket under Guice framework
- Developed the voice annotation feature in Kindle iOS notebook and an End-To-End model to synchronize the client voice data across multiple devices

• Student Software Engineer

Madison, WI

Morgridge Institute for Research

January 2017 – May 2018

- Enriched existing Perl and SQL scripts to display complete code analysis details on Native Viewer result page
- Developed a low memory-consuming backend service in C to parse code assessment result from XML to JSON
- Upgraded the SWAMP Perl runtime version from 5.18.1 to 5.26.1 on CentOS with documentation
- Implemented a feature in PHP server to trigger automatic assessment of new code by GitHub Webhook event
- Organized and stored SWAMP assessment result data into MongoDB

• Undergraduate Research Assistant

Madison, WI

Engine Research Center

March 2018 – May 2018

- Parallelized engine simulation code in python with different input temperature and pressure combinations
- Prepared HTCondor job submit scripts and managed engine simulation jobs in the HTCondor Cluster

• Advanced Engineering Co-op

Fond du Lac, WI

Mercury Marine

May 2016 – December 2016

- Installed and tested the Person Detection module on NVIDIA Jetson TK1 with Linux Bash Scripts
- Employed Open CV libraries with Python to calibrate fisheye camera and dewarp the live video stream
- Programmed URDF, SDF, bash scripts and integrated them with open source ROS packages to create a boat docking simulation with ability to perform 2D SLAM tasks visualized in GAZEBO environment

PROJECTS

- **Used-Car data Analysis:** Crawl and clean car data from cars.com and perform query price analysis
- **GPU Implementation of Texture Synthesis:** Accelerated Implementation of Texture Synthesis on GPU architecture

COURSEWORK

Data Structure, Machine Organization & Programming, Numerical Methods, Probability Theory, Algorithms
Linear Programming, Operating System, Artificial Intelligence, Computational Geometry, Computer Networks
Numerical Analysis, High Performance Computing, Data Science, Machine Learning & Deep Learning (Coursera)

SKILLS

- **Languages:** Java, Python, C, C++, Obj-C, MATLAB, Perl, JavaScript, SQL, PHP, Bash, R, HTML, CSS, XML, JSON
- **Technologies:** CUDA, OpenMP, MPI, ROS, Xcode, iOS-SDK, OpenCV, MySQL, MongoDB, MariaDB, Git, Tensor Flow, Pandas, Guice, ReactJs, Laval