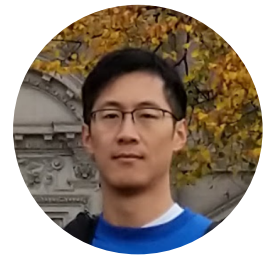


SHENGJIE XU

Summer Intern, 2022: May – August, UC Santa Cruz (2021-2023)

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🌐 <https://shengjie-xu.com/> 🐙 <https://github.com/jayhsu0627>



EXPERIENCE

Research Scientist

China Automotive Technology and Research Center

📅 Dec 2017 – Jun 2021 📍 Tianjin, China

- Integrated road 3D reconstruction CV algorithms with Audesse controllers for path planning and control.
- Built a Thunderhill track using OpenStreetMap, Unreal Engine, and CARLA by imported optimized waypoints, and autonomously drove the vehicle model on the path at a maximum speed of 150kph.
- Built a [disparity estimation algorithm](#) for reconstructing the 3D model of a road surface to estimate real-time wheel force.
- Implemented YOLO-v3 for [real-time road type detection](#).
- Programmed a real-time convolution pipeline to visualize and predict wheel force via PyQtGraph. Studied in black-box modeling of the wheel force by multi-layer perception and LSTM.

Sr. Researcher

China Automotive Technology and Research Center

📅 Jan 2017 – Dec 2017 📍 Tianjin, China

- Translate self-driving-related machine learning knowledge into an internal knowledge base and train team staff on Convolutional Neural Network, Computer Vision, linear SVM, UKF and EKF, Particle Filter, A* planning.

Sr. Engineering Manager

China Automotive Technology and Research Center

📅 Sep 2011 – Jun 2019 📍 Tianjin, China

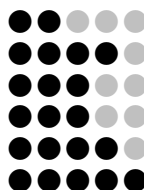
- Lead vehicle testing team in CATARC. Founded three Road Simulation teams with national leading expertise in Road Load Data Acquisition and system-identification-based dynamical road simulation.

ACHIEVEMENTS

- *Growth.* Lead an entrepreneurship team and acquiring Chrysler and Daimler AG as our major customers. Sales growth doubled in three years.
- *Academic.* Presented academic lectures at the SAE International's WCX 2018, the top one organization in the automotive industry.

SKILLS

C++, Java
HTML, JavaScript, Python, OpenCV
MATLAB, Tensorflow, Keras, Scikit-learn
CARLA, Unreal Engine
AWS EC2, putty, Linux (Ubuntu)
Instrumentation



EDUCATION

M.S. in Electrical and Computer Engineering

University of California, Santa Cruz

📅 Sep 2021 – Present

B.S. in Vehicle Engineering

Hebei University of Technology

📅 Sep 2007 – Jun 2011

COURSES

- CSE 160 Introduction to Computer Graphics
- ECE 240 Introduction to Linear Dynamical Systems
- AM 214 Applied Dynamical Systems

CERTIFICATES

Introduction to Self-Driving Cars, Visual Perception for Self-Driving Cars

Coursera Course Certificate

📅 Feb 2020 - Mar 2020

Computer Vision and Deep Learning, Sensor Fusion, Localization, and Control

Udacity Course Certificate

📅 Mar 2018 - Aug 2018

Artificial Intelligence for Robotics

Udacity Course Certificate

📅 Dec 2017

INTERESTS

Academic

- Computer Vision and Computer Graphics, VR.
- Robotics and Self-driving Cars.

Hobbies

- Reading books about economic liberalism, history, democracy, constitutionalism, and entrepreneurship.
- Soccer, swimming, hiking.

LANGUAGES

English
Chinese

