Tao Chen

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EDUCATION

University of Southern California **Los Angeles, CA**
Master of Computer Science in Intelligence Robotics *August 2017 - May 2019*

Oregon State University **Corvallis, OR**
Bachelor of Computer Science in Computer Systems *September 2014 - June 2017*

WORK & RESEARCH EXPERIENCE

Xpeng Motors/Xsense.ai **San Diego, CA**
Senior Software Engineer *Oct 2021 - Present*

- Lead the design and development of bicycle/tricycle/motorcycle motion prediction algorithms that handle highly dynamic and safety-critical city scenarios.
- Explore and enhance deep learning and data-driven algorithms for motion prediction towards L4 autonomy.
- Skills : C++, Python, Pytorch, Bash Script, Docker

Xpeng Motors/Xsense.ai **San Diego, CA**
Software Engineer *Dec 2019 - Oct 2021*

- Designed and developed a stationary object detection algorithm that achieved an average detection range of 150 meters, greatly improving the safety of the Highway Navigation Guided Pilot (Highway NGP) system.
- Developed and evaluated multi-object tracking sensor fusion features for Highway NGP that operated on production vehicles equipped with radars and cameras.
- Developed a 3D real-time visualization tool. Gained adaption and completely replaced Rviz across the company.
- Skills : C++, Qt, OpenGL, Python, Bash Script, Docker

Robotic Embedded Systems Laboratory (RESL) **Los Angeles, CA**
Research Assistant *May 2018 - Dec 2019*

- Researched on applying machine learning techniques to quadrotor control problems and published papers at academic conferences.
- Developed simulation environment and training pipelines that automatically convert neural network graphs to efficient embedded software that could run on STM32 micro-controllers.
- Skills : Python, C++, C, TensorFlow, OpenAI, ROS, Gazebo, Docker, Boost, LaTeX

Dynamic Robotics Laboratory **Corvallis, OR**
Intern *May 2016 - September 2016*

- Participated in the development of the bipedal robot Cassie that became widely used in the research community.
- Implemented a communication protocol to reliably transfer telemetry data between the robot and the remote control. Customized a user interface on the remote controller to display the robot's status, e.g. robot pose, temperature, battery etc.
- Skills: C, C++, Python, MAVLINK, Lua, Bash Script

PUBLICATIONS

Artem Molchanov*, Tao Chen*, Wolfgang Hönig, James A. Preiss, Nora Ayanian and Gaurav S. Sukhatme, ***"Sim-to-(Multi)-Real: Transfer of Low-Level Robust Control Policies to Multiple Quadrotors"***, International Conference on Intelligent Robots and Systems, 2019.
(∗ equal contribution)

AWARDS AND ACHIEVEMENTS

Honor Roll, Oregon State University *2015 & 2016 & 2017*
Winner, Capstone project, Oregon State University *2017*
College of Engineering Scholarship, Oregon State University *2016 & 2017*
Spotlight presenter, Southern California Robotics Symposium *2019*
Master's Best Research Award, USC *2019*

Hobbies

Things I like @ Anywhere *Forever*

- Programming, Robots, LEGOs, Music, Swimming