SHENGJIAN CHEN

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SUMMARY OF QUALIFICATION

- 3+ years of experience in software development, machine learning and robotics.
- Programming skills: proficient in C/C++, Python, Java and MATLAB, familiar with SQL, OpenCV, PyTorch, and CUDA.
- Fluent in English, Mandarin Chinese, Cantonese.

EDUCATION

University of Washington, Seattle, WA, US expected in Dec. 2020

- *Master of Science* - Mechanical Engineering, GPA: 4.0
- Coursework: Engineering Mathematics, Deep Learning, Computer Vision, Database Internal, Artificial Intelligence (graduate-level)

Tsinghua University, Beijing, China Sep.2015 - Jun.2019

- *Bachelor of Engineering* - Mechanical Engineering, minor in Computer Science, GPA: 3.65
- Coursework: Programming Fundamentals, Data Structure, Software Engineering, Signal Processing, Machine Learning.

Northeastern University, Boston, MA, US Jan.2018 - May.2018

- *Exchange Student,* GPA: 3.93
- Coursework: Robotics, Game Programming, Finite Element Method, Measurement and Analysis.

EXPERIENCE

Robotics and Automation Lab Undergraduate Research Assistant

Department of Mechanical Engineering, Tsinghua University Feb. 2019 – Jun. 2019

- Designed and setup a visual servo system with PI motion stage, CMOS camera and customized optical system.
- Implemented efficient and precise visual system to locate moving target (drosophila) at 300Hz.
- Deployed Kalman filter and a modified PID algorithm to track the target at 100Hz with 0.2mm precision.

UISEE Technologies Beijing Co., Ltd Software Engineering Intern

Beijing, China Sep. 2018 – Dec. 2018

- Established simulation scenes and implemented software interface on V-REP for autonomous driving algorithms research.
- Applied intention-aware POMDP to autonomous driving amid many pedestrians with DESPOT as the solver.

Adaptive Computing Lab Summer Research Intern

School of Computing, National University of Singapore Summer 2018

- Implemented sampling-based motion planning and constraint manifold approximation method to do fast motion planning with task constraints (keeping the end-effector upright) on Fetch robot to perform serving tasks.

Lab for Learning and Planning for Robotics Undergraduate Research Assistant

College of Computer and Information Science, Northeastern University Jan. 2018 – May. 2018

- Modeled the problem of target object search and grasping in clutter under partial observability as a POMDP.
- Extended POMCP to PA-POMCP that parameterizes the actions with respect to the robot's current belief and reduces the size of the action space effectively.

PROJECTS

Cars Pose Estimation for Autonomous Driving Oct. 2019 – Dec. 2019

- Developed a model based on CenterNet to estimate cars' 6 degrees of freedom pose from single image for autonomous driving task and achieved top 13% result in a Kaggle competition.

Human Early Embryos Cells Analysis with RNA sequences Nov. 2018

- Used PCA and t-SNE to reveal the clustering and segregation of cells by days and the developmental continuity and trend.
- Trained models (SVM, Decision Tree, Random Forest, AdaBoost) to classifier cells from different days and lineages and compared these models with different metrics.

PUBLICATION

Online Planning for Target Object Search in Clutter under Partial Observability. Yuchen Xiao, Sammie Katt, Andreas ten Pas, **Shengjian Chen**, Christopher Amato. Accepted at IEEE International Conference on Robotics and Automation (ICRA), 2019

ADDITIONAL EXPERIENCE

Admission Assistant of Tsinghua University Jun. 2016, 2017

- Assisted coordinating admission procedure of Tsinghua University in the western Guangdong province in China.
- Communicated with students and parents on critical problems like major selection and career development.

Volunteer Teaching Assistant Jul. 2016 – Aug. 2016

- Led a team of 10 to Inner Mongolia to hold a summer camp for primary school students and offered a class on VR technology.