Xiangyu Xu

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OBJECTIVE:	To apply for intern in the field of computer science with an emphasis on computer vision, machine learning or robotics

EDUCATION:

Stevens Institute of Technology, Hoboken, NJ Anticipated June 2021
Ph.D. of Science in Computer Science **GPA**: 3.8
Course Work: Intro to Robotics, Advanced Robotics, Machine Learning, 3D Computer Vision, Adv. Algorithm Dsgn & Implement, Nonlinear Optimization
Achievements: Provost Doctoral Fellowship

Hunan University, Changsha, Hunan, China 08/10 – 06/14
Bachelor of Science in Mechanical Engineering **GPA**: 3.00

SKILLS:

Operating Systems:	macOS, Windows XP/7/8/10, Ubuntu
Programming Languages:	Python, C/C++
Research Tools:	Matlab, Visual Studio, ROS, PCL, OpenCV, Eigen, LaTeX, Git

EXPERIENCE:

Amazon Lab126, Sunnyvale, CA 05/19 – 08/19
Applied Scientist Intern (Confidential content)
- Developed and assisted with new research projects focused on expanding the breadth and depth of specific advanced domain space for Amazon technology and development.
- Designed, wrote and tested new algorithms or code while partnering with experienced engineers and scientists

Stevens Institute of Technology, Hoboken, NJ 09/18 – 05/19
Computer Science Department, Teaching Assistant.
- Explained computer vision course content to students during weekly office hours.
- Graded assignments

Stevens Institute of Technology, Hoboken, NJ 05/16 – 05/17
The Robust Field Autonomy Lab, Volunteer
- Designed algorithms, optimization methods, and control systems for robust and autonomous mobile robotics.
- Considered applications such as underwater surveillance, inspection, autonomous exploration and path planning.

DONGFENG HONDA ENGINE CO., LTD, Guangzhou, Guangdong, China 07/14 – 08/15
Purchasing and Sales Department, Procurement Specialist
- Analyzed the function and prices of the parts from suppliers and confirmed the final decision
- Confirmed the prices of the parts of engine for mass production cars

PROJECTS:

Video-based Dynamic 3D Reconstruction 2017 – 2018
- Developed a general paradigm for dynamic 3D reconstruction from multiple independent and uncontrolled image streams having arbitrary temporal sampling density and distribution.
- Performed experiments on both synthetic and real imagery with reconstructability numerical analysis.

Autonomous Exploration and mapping of Complex 3D Environment 2016 – 2017
- Designed a robust algorithm for exploring complex three-dimensional environments and simulate it in Matlab.
- Tested the algorithm in a ground robot equipped with ranging sensor in a complex environment.
- Published an open source package in ROS Wiki(http://wiki.ros.org/turtlebot_exploration_3d).

Objects detection and recognition of 3D data in urban environment Fall 2016
- Pre-processed a set of 3D point cloud of urban environment and trained it by method of Machine Learning.
- Recognized different classes form 3D point cloud by trained classifier and tuned the parameters.

IRobot Target-based Tracking, Navigation, and Obstacle Avoidance Fall 2015
- Designed a series of maneuvers for the iRobot to complete the task.
- Programmed the iRobot to perform maneuvers by sensor/image processing, odometry, and geometric modeling.

PUBLICATIONS:

- X. Xu and E. Dunn. Discrete Laplace operator estimation for dynamic 3D reconstruction. In *Proceedings of the IEEE International Conference on Computer Vision,* pages 1548-1557, 2019 (**Oral**)

ACTIVITIES:

Member of CVF (Computer Vision Foundation)
Member of The Robust Field Autonomy Lab
Member of Machine Learning and Computer Vision Lab
Member of NHC (New Honda Circle)

Available summer 2020