HANWEN SHEN

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EDUCATION

Johns Hopkins University — Baltimore, MD

· **M.S.E. in Computer Science** — Aug 2019 - May 2021 (Expected)

· Current GPA: 3.9/4.0

Beijing Institute of Technology (BIT) — Beijing, China

· **B.S. in Computer Science** — Sep 2015 - Jun 2019

· Overall GPA: 89.02/100 (3.83/4.00), Major GPA: 90.93/100 (3.90/4.00), Outstanding Graduate Student (10%)

· Relevant Courses: Data Structure & Algorithm Design, Comprehensive Training for Software Engineering, Linux Programming, Image Processing Technology, Database Systems Development, Modern Data Analysis, Object-Oriented Programming

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, MATLAB, Java, C#, HTML
Software & Tools	OpenCV, ROS, OpenCL, Linux, Git, MySQL, PyTorch, Unity3d, Photoshop

EXPERIENCE

Johns Hopkins University — Baltimore, MD

Course Projects — Aug 2019 - Present

· **UR5 robot path planner:** Implemented a Probabilistic Road Map path planner on ROS, with Obstacle Sampling method applied

· **Jackal robot state estimation:** Implemented an Extended Kalman Filter on a Gazebo simulated environment

Beijing Laboratory of Intelligent Information Technology — Beijing, China

Undergraduate Research Assistant—**Contour-based Stereo Matching (Bachelor's Thesis Project)** — Dec 2018 - Jun 2019

· Conducted research investigation on stereo matching and implemented algorithms of classical papers using MATLAB

· Proposed a novel constraint of correspondent pixels based on geometry observation made easy by aligned-contours from two input images, resulting in more accurate occlusion judgement during optimization process

· Improved the performance of calssical algorithms by 30% on Middlebury Stereo Vision data sets

· Planned to incorporate deep learning with this method to achieve better overall performance in the future

Software Intelligence Laboratory of Beijing Institute of Technology — Beijing, China

Undergraduate Research Assistant—**Human Pose Estimation Based On Deep Learning** — Nov 2018 - Jan 2019

· Finished a human pose estimation project to demonstrate real-time human pose with virtual characters in Unity3d

· Combined depth information provided by a single stereo camera with the 2D coordinates estimated by CMU OpenPose library

· Established a simple socket connection to solve the data transmission problem between C# and C++

· Achieved a performance of 25 fps and prompted the project to be adopted by a private company

PerfXLab Technology Co., Ltd. — Beijing, China

R&D Intern—**Open-Source PerfCV Project** — Jul 2018 - Sep 2018

· Contributed to an open-source PerfCV library aimed at optimizing OpenCV performance on GPU by re-implementing certain functions of OpenCV C++ source code using C and OpenCL, leading to applications like video-stitching

Software Intelligence Laboratory of Beijing Institute of Technology — Beijing, China

Undergraduate Research Assistant—**Optical Axis Automatic Calibration System** — May 2018 - Jul 2018

· Built an optical axis automatic calibration system, featuring a data processing module, a UI module, and a motor-control module

· Utilized object-oriented method to build the software in C# and used camera SDK to collect and display laser data

· Added crosses to demonstrate the target centre with each frame, meanwhile managed to synchronize the whole procedure

· Tested and debugged the whole system, and prompted it to be accepted by Beijing Remote Sensing Equipment Research Institute

HONORS & AWARDS

Outstanding Bachelor's Thesis, Beijing Institute of Technology, 2019

Third Prize of 2019 College Students AI Camp, China Center for International People-to-People Exchange, 2019

Champion of Luzhanqi in University Computer Games Championship, China Association of Artificial Intelligence, 2017