

SEN WANG

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<https://zephyr06.github.io/>

EDUCATION

Georgia Institute of Technology, Atlanta, U.S.

Master of Science in Electrical and Computer Engineering

Aug 2018 - Present

GPA: 3.85/4.0

Northeastern University, Shenyang, China

Bachelor of Automation, "LangShijun" Automation Experimental Class

Sept 2014 - June 2018

GPA: 3.99/5 (A=4.5)

RESEARCH

Robot Calligraphy (M.S.Thesis, advisor: Frank Dellaert)

Jan 2019 - Present

- Formulate the problem as a trajectory optimization problem and define the objective function
- Design three virtual brush models to simulate the behavior of true brushes
- Learn and apply psuedo-spectral methods, factor graph and other nonlinear optimization methods to solve the problem
- Program in C++ and Python to implement the whole calligraphy writing system on real robots

Non-Intrusive Load Monitoring (Advisor: Dongsheng Yang)

Nov 2015 - May 2017

- Propose a new way to extract features of non-regular electronics power consumption based on stage division and kernel density estimation
- Build a smart meter system with proposed algorithm that can be directly applied to regular houses

Computer Vision Projects

- Serve as Teaching Assistant for CS6476 Computer Vision at Georgia Tech (Fall, 2020)
- Propose one algorithm for fast multi-person **action recognition** based on deep learning in undergraduate thesis; By applying human detection to only sampled frames, the algorithm achieves 4.23 times speed up comparing with baseline algorithms with similar performance; (June, 2018)
- Implement a **visual odometry** system according to SOFT-SLAM, learn about basis of visual SLAM, graph optimization and sparsity (Fall, 2019)
- Learn about GPU scheduling in modern operating system

PUBLICATION

- 1 **S. Wang** , J. Chen, X. Deng, S. Hutchinson, F. Dellaert, "Robot Calligraphy using Pseudospectral Optimal Control in Conjunction with a Simulated Brush Model", in IROS 2020
- 2 **Sen Wang**, Dongsheng Yang, Chuchen Guo, Shengxian Du, Non-intrusive Load Disaggregation Based on Kernel Density Estimation. Asia Conference on Power and Electrical Engineering, in ACPEE, 2017

AWARD

2020 IROS Best Entertainment and Amusement Paper Award Finalist, main author

TECHNICAL STRENGTHS & INTERESTS

Robotics

Computer Vision

Real-time system

Programming

Motion Planning, Control, ROS, **Fetch**, **Franka**

Visual Odometry, SLAM, Action Recognition, Deep/Machine Learning

CPU/GPU Scheduling

C++, Python, Swift, Matlab