

# Diwei (Dean) Sheng

TEL: 234-263-0793

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<https://github.com/deansmile>

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## EDUCATION

**Tandon School of Engineering, New York University**

Aug. 2018 - Present

Major in Computer Science; Minor in Mathematics

GPA:3.5/4.0, GRE:332

**Western Reserve Academy, Hudson, OH**

Jul. 2014 - May 2018

## RESEARCH INTEREST

Artificial Intelligence, Computer Vision, Machine Learning

## PUBLICATION

*Diwei Sheng, Yuxiang Chai, Xinru Li, Chen Feng, Jianzhe Lin, Claudio Silva, John-Ross Rizzo, NYU-VPR: Long-Term Visual Place Recognition Benchmark with View Direction and Data Anonymization Influences. Submitted to IEEE International Conference on Robotics and Automation(ICRA) 2021.(in progress)*

## INTERNSHIP EXPERIENCE

**CloudMinds Technology, Beijing, China**

Jun. 2019-Aug. 2019

*Research & Development Department Intern*

- Analyzed the real-time end-to-end convolutional neural network (CNN) StereoNet which can produce depth map.
- Compared three optical flow estimate methods using CNN: FlowNet2, PWC-Net, GeoNet.
- Optimized the neural networks mentioned above to generate optical flow diagrams using Jetson TX2 at 20~30 frames per second.
- Wrote progress reports and papers based on the above work.

## RESEARCH & PROJECTS

**Image-based Urban Re-localization System** (Adviser: Prof. Feng Chen) Jun. 2020-Present

- Aimed to realize the re-localization in urban environments using images as the only input to the system, by comparing the methods and optimizing the pipeline.
- Collected new dataset and restructured the project to reproduce the result with new dataset.
- Introduced a new large-scale dataset as a benchmark and used it to evaluate the state of the art visual place recognition algorithms.
- Improved the 3D reconstruction pipeline by replacing the traditional feature extraction and matching with convolutional neural network SuperPoint.

**Design Project: What's For Dinner** (Adviser: Prof. Fred Strauss)

Feb. 2020-Present

- Aimed to design an application that recommends restaurants to users based on machine learning algorithms analyzing personalized preferences and specific dining experiences.
- Finished coding the basics of frontend and backend.
- Plan to code the first release of the application and test it.

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## NYU Tandon Vertically Integrated Projects

Feb. 2019-May. 2019

### *Mixed Reality Engineering Lab Member*

- Simulated laboratory test equipment and connection to physical devices using Mixed Reality technologies: the combination of HoloLens and Leap Motion.

## Design for America

Sept. 2018-May. 2019

### *JAZET TEAM Member*

- Designed a STEM-learning game for students within the context of the S.S. Columbia project.
- Created 2D visual elements with Photoshop and realized the animation of the game through C# programming in the Unity environment

## ACTIVITIES

### NYU Polytech Programming Team

Feb. 2019-Present

#### *Team Member*

- Practiced programming problems and prepare for the ACM programming competitions.
- Participated in the **ACM- ICPC** Greater New York Regional Competition on October 27, 2019 and got 23rd out of 65 teams.
- Participated in the **IEEEExtreme 14.0 Competition** on October 23, 2020 and got the 4th place out of 102 teams from U.S.

### National High School Game Academy, Carnegie Mellon University

Jun. 2017-Aug. 2017

#### *Game Producer*

- Led a team to produce a game called Serpent in one week as a sound designer using MilkyTracker and Audacity.
- Developed a new game called Aere in three weeks as an artist.  
<https://youtu.be/XIEjQTYfeig>.

## SKILLS

- Java, Python, C, C++, and Unity