

Diwei (Dean) Sheng

TEL: 234-263-0793

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<https://github.com/deansmile>

EDUCATION

Tandon School of Engineering, New York University

Aug. 2018 - Present

Major in Computer Science; Minor in Mathematics

GPA:3.53/4.0, 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 maps.
- Compared three optical flow estimate methods using CNN: FlowNet2, PWC-Net, GeoNet.
- Optimized the neural networks mentioned above using TensorRT and TensorflowLite to generate optical flow diagrams on Jetson TX2.
- Wrote progress reports and papers based on the above work.

RESEARCH & PROJECTS

Image-based Urban Re-localization System (Adviser: Prof. Chen Feng) 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 the 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 4th place out of 102 teams from the 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