

Skills

Concepts

- 3D math
- Camera Calibration
- Data Science
- Data Structures
- Deep Learning (Classification, Recognition, Segmentation, etc)
- Design Patterns
- Image Processing
- Machine Learning
- Object Oriented Programming
- Photogrammetry
- Simultaneous Localization and Mapping (SLAM)

Programming Languages

- C#
- C++ (11, 14 & 17)
- Python

Tools

- Docker
- Git
- Linux (Ubuntu)
- NumPy
- OpenCV
- OpenGL / GLSL / HLSL
- Pandas
- PyTorch
- ROS
- TensorFlow / Keras
- Unity 3D

Professional

- Autodidact
- Creative Problem Solving
- Entrepreneurship
- Excellent Communication Skills (Written and Verbal)
- Interpersonal Skills
- Leadership
- Research Skills

Acknowledgements

- "Grow with Google" Scholarship: Mobile Web Specialist
- Winner of the Digital Methods Initiative Summer School 2021 "Best start-up" for tackling the spread of fake news
- Runner-up at DeepHack: Open BIM Hackathon
- Co-founder of OU Virtual Reality Association, Spring 2017
- President's Honor roll for 2 years
- Dean's Honor roll for 4 years

Languages

English - Native Language
French - B2*

Jacob Young

Computer Vision Engineer

I apply design thinking and creative problem solving in developing emerging technologies to transform the challenges of today into the solutions of tomorrow.

35 Rue de la Gaîté, 75014 Paris, FR | jrby1015@gmail.com | +33 6 33 82 08 76
[LinkedIn](#) | jacobyoung.io | [github](#)

Experience

Basemark | Computer Vision Thesis Worker

January 2022 - August 2022 | Helsinki, Finland

- Thesis topic: *Real-Time Lane Detection on Embedded Systems for Control of Semi-Autonomous Vehicles*.
- Trained and tested multiple neural network based lane detection models with PyTorch on Linux in Docker. Developed a pipeline for automatically labeling data using *state of the art* networks to increase accuracy of real-time lightweight networks. Fused sensor information with network predictions using ROS, PyTorch and OpenCV to simulate vehicle movement.

Interplay Learning | Software Engineer

July 2019 - January 2020 | Austin, Texas - USA

- Created an automatic test suite which reproduced human interaction in training simulations in Unity using C# and reported results through AWS cloud servers using REST and Slack APIs with Python.
- Wrote shaders with OpenGL (GLSL) which optimized visual fidelity for multiple platforms (Android, iOS, MacOS, Oculus Quest, Windows).

Rooster Teeth Productions | Quality Assurance Technical Artist

July 2018 - July 2019 | Austin, Texas - USA

- Automated workflow processes for artists using Python and managed a render farm of 200+ computers for the animated series RWBY and Gen:Lock.
- Collaborated with multiple engineering teams of software application companies (SideFX, Autodesk, etc) to resolve studio wide challenges.
- Wrote Python scripts to maintain pipeline stability and debug existing and experimental technologies (3D applications, renderers, etc).

Projects

Visual SLAM (mostly) from scratch

- Implementing multiple algorithms from scratch for performing Visual SLAM including SIFT (Scale Invariant Feature Transform) and Harris-Stephens corner detection, eventually including ORB and Deep Learning approaches. The project is meant for learning important concepts in Computer Vision / 3D Reconstruction. Created using C++ (17), CMake and OpenCV on Ubuntu.
- <https://github.com/JacobYoung115/VisualSLAM>

WebVR Art Gallery

- jacobyoung.io/gallery

Education

Aalto University | MSc Visual Computing and Machine Learning

September 2021 - November 2022, Espoo - Finland

3D Reconstruction and Deep Learning. Second year of EIT Digital dual degree master's program with a minor in entrepreneurship.

Sorbonne Université | MSc Visual Computing and Telecommunication

September 2020 - November 2022, Paris - France

Computer vision, image processing and computer graphics. First year of the European Institute of Technology (EIT) Digital dual degree master's program.

University of Oklahoma | BFA in Art and Technology

August 2013 - May 2018, Norman, Oklahoma - USA

Emphasis on 3D graphics, game design and UI/UX. Graduated Cum Laude.