Yutian Han

Rautistrasse, Zürich, 8048, Switzerland

+41 079 732 1636

yuthan@ethz.ch

https://kevinhangoat.github.io/me/

Born 4 February 1997, China

EDUCATION

10/2020 – present **ETH, Zürich, Switzeland,**

Master of Science in Robotics, Systems and Control

- Courses: Vision Algorithms for Mobile Robotics, Computer Vision
- Semester Thesis: "Monocular Depth Prediction Dataset and Benchmark"

08/2019 – 05/2020 **University of Michigan, Ann Arbor, U.S.A,**

Master of Science in Mechanical Engineering

- Final grade: 4.0 out of 4.0
- Courses: Mathematics for Robotics, Self-Driving Cars, Mobile Robotics

09/2015 – 05/2019 **Lafayette College, Easton, U.S.A,**

Bachelor of Science in Mechanical Engineering

- Final grade: 3.94 out of 4.0
- Bachelor thesis: "Design an Inverted Pendulum Cart and Study its Application in Autonomous Balancing Skateboard"
  - Designed and built a Segway-alike self balancing skateboard (MATLAB, C++)
  - Directed a human subject test to study the rider-skateboard interaction

RESEARCH AND PROJECTS

1/2022 – present **Computer Vision Lab, ETH, Zürich, Switzeland,**

Large Scale 3D Reconstruction and View Synthesis

- Reconstruct metric-accurate models from driving videos and implement training for monocular depth estimation (C++, Python)(link)
- Research neural radiance field for innovative view synthesis

10/2020 – present **AMZ Driverless, ETH, Zürich, Switzeland,**

Formula Student Module Lead

- Design and build a driverless race car, that can beat an average human driver on a previously unknown track, to compete in various Formula Student events (link)
- Develop a robust and accurate SLAM algorithm to navigate the race car inside the track (C++, Python, ROS)

02/2020 – 05/2020 **University of Michigan, Ann Arbor, U.S.A,**

Localization of Robots Using Invariant Extended Kalman Filter

- Derived a Left Invariant Extended Kalman Filter to estimate the pose of a robot in the world frame using IMU and GPS measurements (link).

06/2019 – 08/2019 **Le Wagon, Shanghai, China,**

Full stack Developer

- Led a team to build a web application, BizWiz, which can extract tables from a given file and generate well-designed charts automatically
- Tutored students in frontend and backend design (Ruby, JavaScript, HTML, CSS)

06/2016 – 09/2017 **North American Nanohertz Observatory for Gravitational Waves, Easton, U.S.A,**

Pulsar Timing and Data Analysis

- Process data of pulsar timing and improve the process of signal calibration (Python)
- Improved the data accuracy by 10-15 percent, leading to a bigger chance of detecting gravitational waves

WORK EXPERIENCE

05/2020 – 08/2020 **APTIV, Troy, U.S.A, Vehicle System Integration Intern**

- Led the Data Analysis team to process and analyze thousands of camera footage recorded during self-driving car tests
- Developed programs to automatically detect and identify the issues of sensors in autonomous driving by processing the logs of a self-driving car. The final program processes thousands of camera recordings and correctly identify 90 percent of errors in vision, fusion or LiDAR

02/2018 – 06/2018 **ABEC INC, Bethlehem, U.S.A, Mechanical Engineering Intern**

- Analyzed the performance of agitators for bioreactors in different circumstances utilizing ANSYS and supervised the production line
- Coordinated the communication between the design team and various customers and reviewed and completed the validation guide for bioreactors

EXTRACURRICULAR ACTIVITIES

05/2014 – present CoFounded a nonprofit organization, DreamWeaver

- Helped high school students to pursue their dreams and education
- Invited graduates from top universities to speak in public seminars and mentor students

6/2014, 6/2015, 8/2018 Volunteer teaching in Qinghai, China

SCHOLARSHIPS AND HONOURS

08/2018 Tau Beta Pi Scholarship

- Granted to outstanding members of Tau Beta Pi, an engineering honor society that accepts the engineering students in the top 10 percent of their class

04/2018 Phi Beta Kappa

- An honour society that recognizes exceptional academic achievement in sciences

08/2016 Excel Scholarship at Lafayette College

- Honoured high-performing students to assist faculty members in research

SKILLS AND INTERESTS

IT skills Good knowledge: Python, C++, MATLAB, ROS, JAVA
Basic: JavaScript, Ruby on Rails, HTML5, CSS

Engineering tools Basic: Autodesk Inventor, ANSYS

Languages Chinese (Native speaker)
English (Full professional proficiency)
German (Level A2)

Interests Web design, Visual Arts, Astrophysics, Basketball