Xavier Weber

RESEARCH · AI · COMPUTER VISION

+44 (0) 7946 673061 | xavierweber63@gmail.com | Saafke | xavier-weber | xavierweber63

Summary

Driven researcher with experience in generating high-quality synthetic datasets and implementing, training, and evaluating deep learning models across different computer vision tasks. Plans to transition to a research engineering role and develop cutting-edge computer vision applications that will move humanity forward.

Work Experience

Queen Mary, University of London — *London, United Kingdom*
RESEARCH ASSISTANT — *Sep. 2020 - Present*

- Wrote python scripts to automatically render realistic 3D scenes in Blender. Re-trained existing deep learning models and showed this novel synthetic data improves accuracy for monocular pose and size estimation in 3D of unseen handheld objects.
- Performed an evaluation study to compare existing state-of-the-art monocular 3D human pose estimation models on challenging video data, e.g. people performing ballet routines or fitness exercises.
- Researched and developed a new tool for automated visual feedback on videos containing human motion, leveraging human pose estimation and segmentation models.

Google Summer of Code with OpenCV — *Virtual*
STUDENT DEVELOPER — *May 2019 - Aug. 2019*

- Implemented two learning-based Super Resolution (SR) models in TensorFlow and added them to the OpenCV library. These outperform previous SR models in OpenCV in terms of speed and accuracy.
- Collaborated with other software engineer to create an intuitive interface in C++, which allows users to employ powerful SR models in only a few lines of code.

NAVER — *Seongnam-si, South Korea*
DEEP LEARNING INTERN — *June 2018 - Oct. 2018*

- Wrote python scripts to automatically render synthetic PDF paper documents containing random folds and creases.
- Implemented a state-of-the-art U-net model in PyTorch for the task of deformed document rectification.

Education

Queen Mary, University of London — *London, United Kingdom*
MSC IN ARTIFICIAL INTELLIGENCE - DISTINCTION — *Sep. 2019 - Sep. 2020*

- Thesis: Category-level 6D Pose Estimation in a Human-Robot Handover Scenario
- Supervisor: Prof. Andrea Cavallaro

Maastricht University — *Maastricht, The Netherlands*
BSC IN DATA SCIENCE AND KNOWLEDGE ENGINEERING — *Sep. 2015 - July. 2019*

- Thesis: Semantic Structure Extraction on Deformed Documents via Fully Convolutional Networks
- Supervisor: Asst. Prof. Gerasimos Spanakis

Skills

Programming Python, Java, C++, MATLAB, Swift
Libraries PyTorch, TensorFlow, Keras, Git, OpenCV, numpy, scikit-learn, scipy, Pandas, Blender
Languages Dutch, English

Certifications

Coursera Deep Learning Specialization
Coursera Computational Neuroscience