Peter LORENZ

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CAREER OBJECTIVE

Computer science Ph.D. stipend holder with 2 years+ industrial experience is looking for great opportunities in enhance the thesis with great internships opportunities concerning Adversarial Machine Learning and after Ph.D. to continue on this position. Passionate about Machine Learning and its challenges.

CORE COMPETENCES

- Deep-Learning
- Python, C++
- Robust, Adversarial Machine Learning
- Software Engineering

PROFESSIONAL EXPERIENCE

FRAUNHOFER ITWM, Kaiserslautern, Germany Ph.D. Stipend, Feb 2021 – present

- External Ph.D. student at IWR Heidelberg University
- Department: High Performance Computing
- Task: Analysis of Adversarial Attacks on Deep Neural Networks (Python, PyTorch)

MBDA-SYSTEMS, Munich, Germany Deep-Learning Engineer, Sep 2020 – Jan 2021

- Processing of a real-world dataset (collected by an airplane)
- Observer drone is equipped with non-commercial sensors. Deep learning (LSTM, Recurrent) approaches are needed and will be adapted/evaluated to track objects on the ground. (Tensorflow)

VIRTUAL VEHICLE RESEARCH, Graz, Austria Autonomous Driving Researcher, May 2019 – Aug 2020

- Software engineering for autonomous vehicles (Ubuntu, C++, Python, CARLA Simulator, Docker)
- Managing an EU-Research Project alone from our company's side. Regular online and on-site meetings.
- Confer with clients to discuss their options and goals so that for accessing needed services are developed.

EDUCATION

HEIDELBERG UNIVRERSITY, Heidelberg, Germany Ph.D. in Computer Science (CS), From Feb 2021

- Expected graduation in December 2023

GRAZ UNIVERSITY OF TECHNOLOGY, Graz, AUSTRIA Master of Science in CS, May 2019

- GPA: 3.86/4.0 (major: Computer Vision, minor: Pervasive Computing, supplements: Mathematical Foundations)
- 6 weeks research scholarship (Wayne State University, Michigan, USA): Validation of a gene database. Hypergeometric distribution models.
- Tutor positions: "Information Security" (Prof. Rechberger) and "Computational Intelligence" (Prof. Maas)
- Thesis: "A Deep Learning Approach to learn Occlusions in regard to Stereo Images". (Tensorflow, CUDA)

GRAZ UNIVERSITY OF TECHNOLOGY, Graz, AUSTRIA Bachelor of Science in CS, Oct 2016

- GPA: 3.77/4.0 (Top 10%)
- Tutor positions: "Numerical Calculation and Linear Algebra" (2016-2017: Prof. Berglez; 2018: Prof. Elsholtz). ~600 students: 2 homework assignments, 2 tests and test proctoring.
- Thesis: "Evaluation and Improvement of the Current Victim Detection System of a Rescue Robot."

SKILLS & INTERESETS

- Languages: German (native), English (fluent), Chinese (A2) and French (A1)
- Technology: Python, PyTorch, Tensorflow, C++, Java, Scala, TCP/IP, Linux
- Society: ASVÖ (Allgemeiner Sport Verband Österreich)
- Interests: Machine Learning, Kickboxing, Economics, Robotics, Information Security, Psychology

APPENDIX

PUBLICATIONS

2021 Lorenz, Peter and Harder, Pauler etal. Detecting AutoAttack Perturbations in the Frequency Domain. ICML Workshop for Adversarial Machine Learning. 2021.

2018 Lorenz, Peter and Steinbauer, Gerald. The RoboCup Rescue Victim Dataset. IEEE International Symposium on Safety, Security and Rescue Robots. 2018.

Projects:

Seminar paper: ”Deep learning approaches for estimating optical flow” – optical flow.pdf – Lecturer: Peter Roth at TU Graz.

Seminar paper: Evaluation of a deep convolutional generative adversarial network: www.github.com/computeVision/dcgan_evaluation – Lecturer: Markus Oberweger

Seminar paper: RC4 and AES cryptography. – www.github.com/technicalinformatics/RC4/blob/master/rc4.pdf – Lecturer: K. C. Posch.