Christoph Schorn

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schorn.cc

Education

since 10/2016 **M. Sc. Electrical Engineering, Information Technology and Computer Engineering**, *RWTH Aachen University*, major field of studies: Computer Engineering

since 07/2015 **Scholarship** by the RWTH Aachen Education Fund, sponsor: Robert Bosch GmbH

10/2013 – 09/2016 **B. Sc. Electrical Engineering, Information Technology and Computer Engineering**, *RWTH Aachen University*, major field of studies: Computer Engineering

- Final grade[1]: 1.9

Projects

Publication based on results of my bachelor thesis (presentation at ISSE on October 12, 2017):

- L. Atorf, **C. Schorn**, C. Schlette, and J. Roßmann, "A framework for simulation-based optimization demonstrated on reconfigurable robot workcells", IEEE International Symposium on Systems Engineering, Vienna, Austria

Bachelor thesis "Simulation-based Analysis and Optimization of a Flexible Robot Workcell", grade[1] 1.0

- Designed and implemented a Python framework on top of the VEROSIM (simulation software) C-API, enabling users to easily analyze, manipulate and solve simulation-based optimization problems using parallelized simulations
- Optimized camera poses within a reconfigurable multi-robot workcell to achieve maximum visibility of an automotive light throughout its assembly process using the developed framework

Work Experience

10/2017 – 03/2018 **Internship (current occupation)**, *Robert Bosch Car Multimedia GmbH*, Hildesheim

- Devise a concept for real-time computer vision object detection to enhance car passenger safety
- Utilize latest ML/DL methods while meeting strict requirements and complying with restrictions
- Lead the project through all stages: research, concept design, data aquisition, implementation (C++/Python, tested code), training, evaluation, demonstration (e.g. for potential customers)

11/2016 – 09/2017 **Research Assistant**, *Institute of Imaging & Computer Vision*, Aachen

- Rewrote a deep learning Keras/TensorFlow project to improve speed and accuracy
- Evaluated data synthesis and different neural network architectures and to improve performance
- Designed and tested different rating algorithms for automated image selection (Python)

04/2015 – 10/2016 **Research Assistant**, *Institute for Man-Machine Interaction*, Aachen

- Collaboratively developed a distributed REST/Microservice web framework & network architecture
- Evaluated and identified best front-/backend & deployment tools for the web framework project: Python, Flask, Protocol Buffers, gRPC, SQL-abstraction, GitLab CI/CD, docker (excerpt)
- Optimized database structure and SQL queries in C++, Python and MATLAB projects

Coursework

Stanford Online 11-week course on Machine Learning (Andrew Ng, Coursera)

RWTH Aachen Fundamentals of Computer Science 1-4, Operating Systems, Fundamentals of Big Data Analytics, Introduction to High Performance Computing, Communication Networks, Artificial Neural Networks, Introduction to Artificial Intelligence

Skills

Programming Python, C/C++, MATLAB, SQL, JavaScript, Go, Java, PHP, Lua, HTML, CSS

Development Git/Github/Gitlab, SVN, JetBrains IDEs, Visual Studio, Eclipse, Windows, Linux, VMs

Other Google Docs/Sheets/..., MS Office, LaTeX, Photoshop

Languages German (native speaker), English (C2, RWTH Foreign Language Certificate)

Interests

Music Pianist for 15 years, solo and in bands, e.g. my band *Funk Force 5*

Other Web development (e.g. the band website), snowboarding

[1] All grades are given in the German grading system: 1.0 and 4.0 are equivalent to $A/100\%$ and $D/50\%$ respectively