Robin M. Schmidt

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Research and Work Experience

Max Planck Institute for Intelligent Systems & University of Tübingen 🗊
Oct 2019 – May 2020

Research Internship in the Methods of Machine Learning Group of Prof. Dr. Philipp Hennig   [Python, Shell, LaTeX]

- Benchmarked and compared 102 state-of-the-art Deep Learning optimizer choices and configurations
- Solved the problem of missing reference points for new optimization algorithms
- Enabled DeepOBS as a competitive benchmarking suite by creating new optimization baselines
- Took the initiative and advanced development of DeepOBS by fixing very impactful bugs
- Grade for Credit (german): **1.0**, approximately equivalent to an "**A**" grade (UK)

IBM 🗐
Aug 2019 – Oct 2019

Extreme Blue Internship supervised by Martin Oberhofer and Dr. Manfred Oevers   [Python, REST, Gremlin]

- Researched possibilities for Master Data Management with Internet of Things use cases
- Developed more effective instance-level product master data representations through a RESTful API
- Developed a graph-based visualization based on React.js for a prototype in the healthcare sector
- Took the initiative to work closely with offering management in the USA to deploy the obtained improvements
- Presented the results at a conference for worldwide stakeholders and IBM-leaders in Cluj-Napoca, Romania

Cooperative State University Baden-Württemberg Stuttgart 🗊
Oct 2017 – Jun 2018

Research Internship supervised by Prof. Dr.-Ing. Olaf Herden   [Shell, LaTeX]

- Compared state-of-the-art NewSQL databases on the categories of the Business Readiness Rating ⌂
- Provided heuristics for the appropriate NewSQL database selection
- Grade for Credit (german): **1.5**, approximately equivalent to an "**A**" grade (UK)

Eisenmann SE 🗐
Oct 2015 – Oct 2018

Research & Development Engineer + Bachelor Thesis   [Java, JS, HTML, CSS, LaTeX]

- Research & Development projects in the field of Manufacturing Execution Systems
- Conceptualized and developed a highly cost-efficient single product tracking system
- Took the initiative to solve arising problems on-premise in the USA regarding the data collection
- Quantified and implemented more effective Key Performance Indicators for better performance insights
- Published several papers on these topics under a non-disclosure agreement

Education

University of Tübingen | *M.Sc. – Computer Science*	(Oct 2018 – Present)	Tübingen, Germany
DHBW Stuttgart | *B.Sc. – Computer Science*	(Oct 2015 – Oct 2018)	Horb, Germany

Skills

Languages: German (native), English (business fluent), Latin (small latinum certificate), Japanese (beginner)

Programming: Python, Java, C#, Prolog, Matlab, R, SQL, Gremlin, HTML5, CSS3, JavaScript

Frameworks & Tools: Flask, React, TensorFlow, NumPy, Pandas, Version Control, Adobe Suite, Linux, Docker, Kubernetes, Microsoft Office, LaTeX

Databases: MySQL, Oracle, JanusGraph, MongoDB, VoltDB, NuoDB, CockroachDB

Selected Projects & Contributions

DeepOBS: Optimization Benchmarking Suite – Contributed Baselines, Scripts and improved Software Quality

App2Night: Location based mobile App to create, comment and rate user generated events to find the best event

SiteScrawler: Webapp to provide users with relevant news articles based on customisable topics of interest

Unpublished & Industry Research

[1]   Robin M. Schmidt. *Calculation and Evaluation of Key Performance Indicators for Production within a Manufacturing Execution System.* (Title translated from German, subject to a NDA). 2017.

[2]   Robin M. Schmidt. *Conception and Implementation of a Single Product Tracking System within a Press Hardening Production Line.* B.Sc. Thesis. (Title translated from German, subject to a NDA). 2018.

[3]   Robin M. Schmidt. *Improvements for the configurable Data Analysis Pipeline within a Manufacturing Execution System.* (Title translated from German, subject to a NDA). 2018.

[4]   Robin M. Schmidt. *New SQL Databases: An empirical evaluation of Open Source NewSQL Databases regarding modern Application Scenarios.* https://bit.ly/2OY6IGC. (Title translated from German). 2018.

ArXiv submissions

[5]   Robin M. Schmidt. *Recurrent Neural Networks (RNNs): A gentle Introduction and Overview.* 2019. arXiv: 1912.05911 `[cs.LG]`.

Publications

[6]   Robin M. Schmidt, Frank Schneider, and Philipp Hennig. "Descending through a Crowded Valley — Benchmarking Deep Learning Optimizers". In: *Advances in Neural Information Processing Systems (NIPS).* (under review). 2020.