Sahar Qaadan
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EDUCATION

PhD: Electrical Engineering and Informatics 2016-2019
Theory of Machine Learning, Institut für Neuroinformatik, Ruhr University Bochum
Dual Training Kernel Support-Vector Machines with Budget
Thesis advisor: Prof. Dr. Tobias Glasmachers.

Msc. Automation and Roboics 2011-2014
ETIT, Technical University Dortmund
Development and Implementation of a curvature Dependent force Correction Algorithm for the planning of Force Controlled Grinding Processes in compact-size ABB Robots.

BSc. Mechatronics Engineering 2003-2008
School of Engineering and Technology, University of Jordan
Excellent, top 5% among a class of 90 students.

WORK EXPERIENCE

Assistant Professor in Mechatronics Engineering Department 2020-Current
German Jordanian University, School of Technical Sciences, Amman, Jordan
Robotics, Machine intelligence, Pneumatics and hydraulics, Instrumentation and measurement.

Mechatronics Engineering Exchange Coordinator 2020-Current
German Jordanian University, School of Technical Sciences, Amman, Jordan
Responsible for mechatronics engineering students at German universities and internship, transferring the new phase of mechatronics engineering courses/syllabus into the equivalent German modules style. Represent the school of engineering/Mechatronics department in front of the German universities and industrial partners.

Research Associate – Post doc
Theory of Machine Learning, Institute of Neuroinformatik, Bochum, Germany
Machine learning: Supervised learning, optimization, large-scale data, parallelization and GPU implementation.

Equal Opportunities Advocate 2015-2019
Institute of Neuroinformatik, Bochum, Germany

Research Assistant 2016-2019
Theory of Machine Learning, Institute of Neuroinformatik, Bochum, Germany

Informatik 1, Selected topics in applications of artificial Intelligence.

Control Engineer 2014-2016

NISYS GmbH and Institute of Neuroinformatik, Bochum, Germany

Vision system for tracking the rear traffic of BMW car in the context of environment sensing driver assistance systems.

Technologiezentrum and Institut of Neuroinformatik, Bochum, Germany

Model-based predictive controller to maintain cooling temperature in data center with the minimal cost of fan speed using Neural Network.

Artificial Intelligence– Internship 2014

Thyssenkrupp Rothe Erde, Lippstadt, Germany

Conceptual development and implementation of an efficient (supervised) machine learning algorithm for computing transient multidimensional ball bearing loads.

Advisors: Dr-Ing. Martin Neidnicht, Dr-Ing. Daniel Becker, Dr-Ing. Thomas Handrick.

Teaching and Research Assistant 2010-2011

German Jordanian University, Amman, Jordan

MATLAB, hydraulics and pneumatics, manual drawings, AUTOCAD, Automatic control systems, programmable logic controllers, industrial automation and smart buildings.

PEER-REVIEWED CONFERENCE PAPERS

6. S. Qaadan and T. Glasmachers, "Multi-Merge Budget Maintenance for Stochastic Gradient Descent SVM Training", **13th WiML Workshop, Co-located with NeurIPS**, Montreal, QC, Canada (1-10 Dec 2018).

5. T. Glasmachers and S. Qaadan, "Speeding Up Budgeted Stochastic Coordinate Ascent SVM Training with Precomputed GSS Search", **M. M. -y-G. Ruben Vera-Rodriguez Sergio Velastin & Morales, A., Eds.), The 23rd Iberoamerican Congress on Pattern Recognition**, Madrid, Spain (19-22 Nov 2018).

4. S. Qaadan and T. Glasmachers, "Multi-Merge Budget Maintenance for Stochastic Coordinate Ascent SVM Training", **The 1st Artificial Intelligence International Conference** , Barcelona, Spain (21-23 Dec 2018).

3. T. Glasmachers and S. Qaadan, "Speeding Up Budgeted Stochastic Gradient Descent SVM Training with Precomputed Golden Section Search", **In G. Nicosia, Pardalos, P., Giuffrida, G., Umeton, R., & Sciacca, V. (Eds.), The 4th International Conference on machine Learning, Optimization and Data science**, Tuscony, Italy (13-16 Sep 2018).

2. S. Qaadan, M. Schüler and T. Glasmachers, "Dual Support Vector Machines Training on a Budget", **The 8th International Conference in Pattern Recognition Applications and Methods**, Prague, Czech Republic (19-21 Feb 2019).

1. S. Qaadan, A. Pendhyala, M. Schüler and T. Glasmachers, "Online Budgeted Stochastic Coordinate Ascent for Large-Scale Kernelized Dual Support Vector Machine Training", **International Journel in Pattern Recognition Applications and Methods**, (Dec 2019).

SEMINARS, WORKSHOPS AND SUMMER SCHOOLS

3. Lucia PhD School on Artificial Intelligence and Robotics, Insituto Superior Tecnićo, Lisbon, Portugal, 09/2017

2. European Computational Motor Control Summer School, University Montpellier, Montpellier, France, 07/2016

1. Barcelona, Cognition, Brain and Technology Summer school, Pampeu Fabra Barcelona Universitat, Barcelona, Spain, 08-09/2015

SUPERVISED THESIS

1. Abhijeet Pendyala – WiSe 2018/2019 "Budget Accelerated Coordinate Descent with Adaptive Coordinate Frequencies Large-scale SVM Training."

2. Tim Nadrowski – WiSe 2019/2020 "GPU Implementation of a SVM Solver with Budget."

3. Jalal Dababneh – WiSe 2020/2021 "Optimization and Development of covariate and Single Omics."

4. Abdullah Alani – WiSe 2020/2021 "Implementation of Budgeted Stochastic Coordinate Ascent for large-Scale Datasets using Different Non-linear Kernel Methods."