Ahmad M. Belbeisi

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Education

Technische Universität München (TUM), Munich, Germany 11/2020–Present
M.Sc. in Civil engineering

Technische Universität München (TUM), Munich, Germany 10/2021–Present
M.Sc. in Computational Science and Engineering

The University of Edinburgh, Edinburgh, UK 09/2014–08/2019
BEng (Hons) in Civil Engineering GPA: 3.3/4.0

WORK EXPERIENCE AND INTERNSHIPS

BMW Group - Entwicklung Antrieb (Drive Development) Munich, Germany
Software Internship / Advanced Development Transmission and Power train Simulation 03/2021–Present

- Collaborated with team members on creating and optimizing an efficient algorithm for defining sampled cylinders that approximate an object defined by an STL file
- Implementing an algorithm to identify the significant edges in the cross-section area (orthogonal to a specified axis-direction)
- Liaised with BMW Engineers to integrate the Cylinder-based approximation of 3D-Objects algorithm into automatized Transmission synthesis Software

TE Connectivity - Energy and Utilities Ottobrunn, Germany
Working Student / Digital Factory 01/2021–Present

- Designed and developed analysis systems to extract information from digital internet of things (IOT) solutions
- Implementing automatic data management systems that read/write-into standard database architectures (SQL)
- Carried out continuous identification, measurement, and improvement of automation processes
- Built innovative data visualization dashboard for controlling engineers to optimize and reduce waste production per standards and achieve 100 compliance with best practice

The University of Edinburgh Edinburgh , UK
University Research Assistant / Civil Engineering Department 06/2018–07/2019

- Established communication and aquired data from Amey, Arup, and Transport of Scotland
- Maintained and established collaboration with several University of Edinburgh departments, specifically, the School of Engineering, the School of GeoSciences, as well as the Edinburgh Compute and Data Facility (ECDF), who enabled us to use Eddie and Terra-Correlator for data processing
- Interpreted complex simulation data-sets using statistical methods.
- Used ANN models to model the changes in the response of the Forth Road Bridge caused by external factors

Edinburgh University Hyperloop Society (HYPED) Edinburgh, UK
Student Member / Research Team 09/2016–08/2017

- Performed a conceptual feasibility of the Hyperloop vehicle from Edinburgh to London

Edinburgh University Formula Student Society Edinburgh, UK
Student Member / Engine Team 09/2015–08/2016

- Dismantled engine and designed baffled oil sump

TECHNICAL SKILLS

- **Engineering:** Computational Fluid Dynamics , Structural Analysis, Finite Element Method
- **Computation:** Scientific Computing, Modeling, Applied Mathematics
- **Data Science:** Uncertainty Quantification, Stochastic Inference, Statistical Learning, Data fitting
- **Programming:** Python , MATLAB , R , C++
- **Languages:** English **C2** , German **A2.2** , Arabic **Native**

HONORS AND AWARDS

- Oskar von Miller Scholarship 12/2020–Present
- TRADA Student Design Competition - CO2nnect Finalist 2017

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Oskar Von Miller Forum

Student Representative & Corona Crisis Management Lead 03/2021–Present

- Lead the crises management team to ensure the safety and well being of scholarship holder
- Provided peer coaching to help fellow students stay motivated and manage mental health issues throughout the corona crises
- Managed contact tracing list

Oskar Von Miller Forum

System Administrator of Real-Time Video Translation / Advisor: Prof. Werner Lang 01/2021–Present

- Initiated and lead the real-time media translation initiative at the Forum
- Designed, architected and implemented real-time speech to speech translation

ACADEMIC RESEARCH AND THESES

Bachelor Thesis:

Structural Health Monitoring with Machine Learning – Big Data Forecasting/ **Advisor:** Prof Michael C Forde

- Developed an anomaly detection algorithm that is derived from Long Short Term Memory Networks based Autoencoder (LSTM Autoencoder)
- Performed novelty detection on the extracted anomalies (damage-sensitive features) for The Forth Road Bridge in Scotland

Hobbies

- Hiking (Scottish Highlands, Tianmen mountain), Electronics, Biking, Amateur radio, Cooking