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Abrar Ahmed

https://github.com/abrarum | https:/linkedin.com/in/abraracs/ | https://xing.to/abrar_ahmed

abraracs@gmail.com (preferred) | +4917642030519 | Rostock, Germany

EDUCATION

Universität Rostock, Rostock, Germany **2019 – 2021 (Expected)**
Masters in Computer Science
*Thesis (ongoing): Bezier line object detection (ends in **July 2021**)*

EXPERIENCE

Research Assistant + Thesis @ Fraunhofer IGD **Feb 2020 – Feb 2021**
- Modelling feature visualization techniques for bat species recognition.
- Built the interface for the TensorRT inference engine from scratch using Vue.js.
- Built the test server REST APIs from scratch using Node JS (Express API).

Research Assistant @ Max Planck Institute MPIDR **Jul 2020 – Mar 2021**
- Data collection (web scraping) for multiple projects totaling 10,000+ searches.

Werkstudent Software Engineer @ Hamburg Port Consulting **Sep 2019 – Nov 2019**
- Built a pre-processing tool for the standardized dataset (1M+ data records) using Python and NumPy increasing the efficiency of manual pre-processing times from 120 minutes to 2 min = 98.33% decrease in time consumption.
- Trial and tested multiple ML models from scratch and improved the accuracy of it to 98%.

Freelance Software Engineer **Jul 2014 – Mar 2019**
- Completed 200+ small and big projects by myself.
- Co-founded 3 micro-startups (Axisport Lab, Graphimator & Stitch-In)
- Technology stack includes: Java, Javascript, and its big 3 frameworks, Python, AWS, Firebase, and more

PROJECTS

Real-Time Hand Detection in a Therapeutic Research Scenario (Nov 2019 – Sep 2020, 4-person project, What I did)
- Implemented using Python, OpenCV and TensorFlow (Keras).
- Supports even a low-edge camera like laptop webcam; accuracy achieved 95%
- Collected 1000+ images, built and tweaked deep learning model from scratch (technique – transfer learning) and validated + tested model with 2 different validation methods (confusion matrix and cross-entropy).

Twitter Sentiment Analyzer (Jan 2020 – March 2020, 1-person project)
- Implemented using Python and NLTK. Algorithm approach (Naive Bayes classifier implementing ordinal regression)
- Analyzed and categorized 10,000 tweets based on their sentiments of good, bad and neutral gestures.

Tracking of Wild Polar Bears with AI (September 2020 – October 2020, 1-person project)
- Implemented using Azure services: virtual camera, Azure functions and Azure SQL.
- Trained a supervised machine learning model and created Power BI reports of polar bear detection.

TECHNICAL SKILLS

PROGRAMMING LANGUAGES
Python, Javascript, C++

ML/DL Skills
Deep learning NN, Computer vision, Tensorflow Sci-kit learn, A/B Experimentation, CI, Google Cloud AutoML, Azure ML, AWS