Abrar Ahmed

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Berlin, Germany

An experienced individual in the field for **over 7 years**. Co-founded **3 micro-startups**. Artificial intelligence and machine learning research enthusiast focused on **computer vision** esp. **Object detection** problems. My primary focus is on **Deep neural networks**, currently working on a novel solution using **Convolutional neural networks** to solve the Bezier line detection problem for the detection of wood rings and power lines using **Python** and **Tensorflow**.

WORK EXPERIENCE

Research Assistant & Master Thesis
(Computer vision & Machine learning) — *Fraunhofer IGD* Feb 2020 – Feb 2021

- Proposed a neural net architecture that directly predicts Bezier lines/curves instead of bounding/anchor boxes for certain specialized applications.
- Examined the neural network interpretability by implementing novel feature visualization techniques by backpropagation, saliency maps, and smooth gradients.
- Skills: Image processing, deep learning, linear algebra, python, tensorflow, opencv

Research Assistant (Data Analyst) — *Max Planck Institute* Jul 2020 – Mar 2021

- Literature, online and social media search.
- Statistical analysis and support in the preparation of visualizations and reports.
- Skills: Web scraping, data analysis and cleaning, management, and accuracy validation.

Werkstudent (SE Machine learning) — *Hamburg Port Consulting* Sep 2019 – Nov 2019

- Automated the data pre-processing pipeline reducing the time consumption by 98.3%.
- Derived the optimal container dwell time prediction by implementing time-series analysis and forecasting of the container data with an accuracy of 98%.
- Skills: statistics, time-series analysis, forecasting, tensorflow, specifications

Real-Time Hand Detection using neural networks (Single Shot Detector) — *(Opensource)*

- Using neural networks solved the hard problem of tracking hands in real-time using a customized first-person POV hand dataset.

Berlin Weather Forecast using Random Forest Algorithm — *(Opensource)*

- End-to-End Machine learning solution for the prediction of the maximum temperature tomorrow in Berlin using Random forest algorithm.

FINEGAN implementation for Python v3.7 — *(Opensource)*

- Refined the novel FINEGAN implementation supporting Python 3.7 and Pytorch 1.1.0

OTHER EXPERIENCES

Freelancer — Self Employed Jun 2014 – Mar 2019

- Completed 200+ small and big projects by myself.
- Co-founded 3 micro-startups (Axisport Lab, Graphimator & Stitch-In)
- Skill stack ranges from web dev (HTML5, CSS3, Javascript ES5/6, VueJS, Angular, React, SQL, NoSQL), app dev (React Native and Android), designer (Adobe Suite), content writing, and SEO.
- Prominent Clients: *Cryptozilla.io, Medb diagnostics, Horizon Tech, Productivenous, Al Wahdat Travels, GiveAKidney, Midwestradar, Chotaay Delivery, UPenn, Flexicom, IFI*, Individual entrepreneurs, and many more.

EDUCATION

MSc. Computer Science Feb 2020 – Feb 2021
— *Universität Rostock*

Convolutional Neural Networks Sept 2020 – Mar 2021
— *Coursera.org*