Danish Anwer

PhD Student, Chalmers University of Technology

Eldaregatan 1A,
Gothenburg, Sweden
+46 790566854
anwer@chalmers.se
https://github.com/danish256202

EDUCATION

Jan 2024–Present — Member of research school
The Swedish National Graduate School in Medical Bioinformatics.
https://www.medbioinfo.se/

Oct 2023–Present — PhD Student
Polster Lab, Life Sciences, Chalmers University of Technology, Sweden.
Topic: Understanding patient-specific molecular mechanisms in Alzheimer's Disease using in-silico interactome modeling and machine learning
Supervisor's Name: Annikka Polster
Supervisor's Email Address: annikka@chalmers.se

Oct 2020–July 2023 — Master of Science in Computational Modelling and Simulation
Technische Universität Dresden, Germany.
Relevant Courses: Statistical Principles and Experimental Design, Data Science: Advanced Analytics, Digitization and Data Analytics, Computer and Robot-assisted Surgery, Machine Learning, Transaction Information System (DBMS).
Grade: 1.6 (German Scale: Good)

TEACHING EXPERIENCE

Aug 2025–Present — Teaching Assistant
Courses: System Biology and Applied Bioinformatics
Chalmers University of Technology, Sweden.
Responsible for Machine learning, Genome Scale Metabolic Networks and RNA-Seq analysis lectures

PROFESSIONAL AND RESEARCH EXPERIENCE

July 2025- Sep 2025 — Research Visit
Crom Lab, Heidelberg University, Germany (https://www.hdsu.org/**).**
Topic: Single Cell Alzheimer Disease Informed Variational Autoencoder
Supervisor's Name: Prof. Dr. Carl Herrmann
Supervisor's Email Address: carl.herrmann@bioquant.uni-heidelberg.de

July 2022-Feb 2023 — Master's Thesis Student
Zelezniak Lab, Life Sciences, Chalmers University of Technology, Sweden.
Topic: Predicting protein-protein interactions using Transformers and BERT
- Fine-tuning of Transformers and BERT language models for interaction prediction
- Trained neural network on extracted embedded vectors from pre-trained Protein-BERTs
- Analysed protein-protein interaction data collected from published research papers
- Writing manuscript for the publication (Under Process)

GitHub: https://github.com/danish2562022/PPI_prediction
https://github.com/danish2562022/keras_tuner_hp_pipeline

`

Jan 2022- Mar 2023 — Working Student (Data Analyst)

Forschungsstelle für Energiewirtschaft, Munich, Germany.

- Built and deployed interactive dashboard by using Dash by Plotly for the visualization and analysis of increase decrease gaming of energy market
- Implemented ARMA, ARIMA, Prophet, Linear regression, Multi-layer perceptron, and LSTM for energy forecasting

Aug 2021-Mar 2022 — Guest Researcher

Behavioural Neuroscience Lab, Lund University, Sweden.

- Implemented YoLOv3, Faster RCNN and RetinaNet
- Published research paper, "A comparison of machine learning approaches for the quantification of microglia cells" at PLoS One

GitHub: https://gitlab.com/cell-quantifications/Microglia

Apr 2021-July 2021 — Intern

National Center for Tumour Diseases, Dresden, Germany.

Topic: Normalizer-free deep learning for surgical applications

- Implemented Normalizer free network NFNet for anticipation and recognition of surgical instruments on sequence of frames and compared the result with ResNet and AlexNet

June 2020-Sept 2020 — Working Student

National Instrument, Dresden, Germany.

- Automated manual VM setup procedures for software development
- Written PowerShell script that utilized the software management solution chocolatey and automation software saltstack

Oct 2019-Jan 2020 — Working Student

Technische Universität Dresden, Dresden, Germany.

- Labelled images for object detection

Feb 2018-Mar 2019 — Software Testing Engineer Senior Associate

NTTData Global Delivery Services, Bengaluru, India.

- Worked on black box testing of web application for Wells Fargo
- Worked on technologies like Selenium, TestNG-Java and Junit

PUBLICATIONS

- Danish Anwer, Eduard K., Annikka P. '*Network-Based Discovery of Regulatory Drivers of Cognitive Decline in Alzheimer's Disease*' (npj aging) (under review)
- Danish Anwer, Nicola Pietro Montaldo, Elva Maria Novoa-del-Toro et al. '*Longitudinal assessment of DNA repair signature trajectory in prodromal versus established Parkinson's disease*' (npj parkinson's disease)
- Bingxue Lyu, Ke Wu , Yuanyuan Huang, Danish Anwer et al. '*GotEnzymes2: expanding coverage of enzyme kinetics and thermal properties*' (Nucleic Acids Research)
- Danish Anwer, Gubinelli F., Kurt Y.A et al. *'A comparison of machine learning approaches for the quantification of microglial cells in the brain of mice, rats and non-human primate'* (PLoS One)
- Gubinelli F., Sarauskyte L., Danish Anwer et al. '*Characterization of functional deficits induced by AAV overexpression of alpha-synuclein in rats*' (Current Research in Neurobiology)

CONFERENCE PRESENTATIONS

- Danish Anwer, Eduard Kerkhoven, Annikka Polster *'Understanding patient-specific molecular mechanisms in Alzheimer's Disease using in-silico interactome modelling'* (Poster Presentation) Genomic Medicine Sweden, Complex Disease Conference 2024, Stockholm.

- Danish Anwer, Eduard Kerkhoven, Annikka Polster *'Understanding patient-specific molecular mechanisms in Alzheimer's Disease using in-silico interactome modelling*' SBMC2024 conference, Leipzig (Talk)]

- Danish Anwer, Eduard J Kerkhoven' Annikka Polster *'Understanding and Identifying Novel Subgroups in Alzheimer's Disease Through Gene Regulatory Networks'* ICSB 2024, IIT Bombay (Talk)

COMPUTATIONAL SKILLS SUMMARY

Programming Languages: Python, C++ and Shell scripting
Database Management System: MySQL and NoSQL
Data Analysis Libraries: Pandas, NumPy, Scipy
Data Visualization Libraries: Dash by Plotly, Seaborn, Matplotlib, Plotly
Bioinformatics Tools/Packages: Biopython, PyDESeq2
Machine Learning Libraries: Scikit-Learn, Keras, PyTorch, Keras-Tuner, Hugging-face
Tools for MLops: Weight and Biases
Web Development Tools: HTML, CSS, JavaScript, Flask
Tools for Creating Dashboard: Dash by Plotly
Software Testing Tools: Selenium, TestNG-Java and Jira
OS Experience: Linux Mint, Ubuntu and Windows
Other Tools: Git**,** Singularity, Docker, Snakemake, Slurm manager

REFERENCES

- **Dr. Annikka Polster**
  Assistant Professor, Systems and Synthetic Biology, Department of Life Sciences,
  Chalmers University of Technology, Sweden
  Email Address: annikka@chalmers.se

- **Dr. Aleksej Zelezniak (Chalmers Technical University representative at MedBioInfo)**
  Associate Professor, Systems and Synthetic Biology, Department of Life Sciences,
  Chalmers University of Technology, Sweden
  Email Address: aleksej.zelezniak@chalmers.se

- **Dr. Andreas Heuer**
  Associate Professor, Behavioural Neuroscience Laboratory,
  Lund University, Sweden
  Email Address: andreas.heuer@med.lu.se

- **Dr. Carl Herrmann**
  Professor, Computational Regulatory Omics Lab
  Heidelberg University, Germany
  Email Address: carl.herrmann@bioquant.uni-heidelberg.de

- **Dr. Francesco Gubinelli**
  Postdoctoral fellow, Burbulla Lab,
  Ludwig-Maximilians Universität München, Germany
  Email Address: Francesco.gubinelli@mail03.med.uni-muenchen.de