Devesh Singh

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Professional Experience

Universitätsmedizin Rostock,
Wissenschaftlicher Mitarbeiter / Research Scientist
Supported the operationalization of the Open Medical Inference (OMI) platform at UMR, empowering peer-to-peer exchange of healthcare data and remote AI services by implementing open protocols, integrating MII infrastructure, and streamlining deployment for partners

German Center for Neurodegenerative Diseases (DZNE),
Wissenschaftlicher Mitarbeiter / Research Scientist
09/2022 – 03/2025 | Rostock
I develop explainable deep learning models and frameworks to help clinicians detect Alzheimer's from brain MRIs, focusing on end-to-end pipelines and their clinical utility to build trust in DL-assisted decisions.

Data Science For Social Good (DSSGx),
Research Fellow
06/2022 – 08/2022 | Kaiserslautern
As a Data Science for Social Good (DSSG) Fellow in 2022 at TU Kaiserslautern, I collaborated with Paraguay's public procurement agency (DNCP) to detect fraud in procurement processes.

SICK Sensor Intelligence, *Master's Thesis*
11/2021 – 04/2022 | Hamburg
Setting up and testing a pipeline for synthetic data generation. Using generative deep learning models, CycleGANs and CUT, for an image translation (computer vision) task.

SMA Solar Technology, *Working Student R&D*
03/2021 – 08/2021 | Remote (Germany)
Developed time series models to forecast inverter failure risks and integrated legacy code following Git-flow principles using Azure DevOps.

STIHL, *Data Science and Big Data Analytics Intern*
03/2020 – 09/2020 | Waiblingen
Conducted statistical tests on damage correlation with usage, performed time series analysis on machine signals, supported data collection and management, and created visualizations using PowerBI dashboards.

Education

Ph.D Student, *The University Medicine Rostock*
09/2022 – present | Rostock, Germany
Expected graduation with a Dr. rer. hum.

M.Sc. Data and Knowledge Engineering,
Otto von Guericke University (OvGU)
10/2018 – 06/2022 | Magdeburg, Germany
GPA: 1.3
Machine Learning | Deep Learning | Generative Models | Information Retrieval | Heuristic Optimization | Business Analytics

B.Tech. Information and Communication Technology, *Dhirubhai Ambani Institute of Information and Communication Technology*
08/2013 – 05/2017 | Gandhinagar, India
Software Engineering | Database Management | Computer Networks | OOP Concepts

Skills

Deep Learning Stack ●●●●●
TensorFlow, PyTorch, Keras

Machine Learning Libraries ●●●●●
Pandas, Numpy, scikit-learn

Coding Languages ●●●●○
Python, R

Dashboarding Platforms ●●●○○
PowerBI, KNIME

Database Stack ●●●○○
Microsoft SQL, PostgreSQL, PySpark, Hadoop

Other Tools ●●●●○
Git, JIRA, Microsoft Office, Command-line, React APIs

Languages

English ●●●●●

German ●●○○○
Enrolled for B1.1 level

Publications

[Preprint] An Unsupervised XAI Framework for Dementia Detection with Context Enrichment
2025

Contrastive Self-supervised Learning for Neurodegenerative Disorder Classification,
Frontiers in Neuroinformatics
2025

[Preprint] SMAS: Structural MRI-Based AD Score using Bayesian VAE
Listed Coauthor.

Evaluating the Fidelity of Explanations for Convolutional Neural Networks in Alzheimer's Disease Detection,
Springer Fachmedien Wiesbaden GmbH
2025

Computational Ontology and Visualization Framework for the Visual Comparison of Brain Atrophy Profiles,
BVM Workshop, Springer Vieweg, Wiesbaden
2024
Project GitHub

Comparison of CNN Architectures for Detecting Alzheimer's Disease using Relevance Maps, *BVM Workshop. Wiesbaden: Springer Fachmedien Wiesbaden*
2023
Project GitHub

Other Academic Efforts

Have reviewed for and been a co-editor for the Journal of Alzheimer's Disease (JAD) (Impact Factor: 4.3, Year: 2024). Have also reviewed for Biological Psychiatry (Impact Factor: 9.6, Year: 2023) and Computers in Biology and Medicine (Impact Factor: 7.7, Year: 2022).

Standardized Test Scores

International English Language Testing System (IELTS)
2017
Score: 8.0

Graduate Record Examination (GRE)
2016
Score: 318

References

Dr. Martin Dyrba, *Junior Group Leader*, DZNE
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