Abhinav Pareek

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EDUCATION

Otto von Guericke University **Magdeburg, Germany**
Masters in Data and Knowledge Engineering (Data Science) *10/2022-Present*
- **Thesis: Evaluating LLM Evaluator Reliability** Across Readability Levels and the Impact of Ensemble Approaches

M.B.M Engineering College **Jodhpur, India**
Bachelors in Electronics and Computer Engineering *08/2016-08/2020*
- Cofounded a community of AI enthusiasts to provide its members necessary resources and supportive environment to boost their learning in AI.

WORK EXPERIENCE

Fraunhofer-IAIS **Sankt Augustin, Germany**
ML/AI Engineer Working Student *05/2024 – Present*
- Spearheaded the development of a **Generative AI application** for automated patient report generation, to reduce manual analysis time by streamlining clinical workflows.
- Engineered **Large Language Model(LLM)-based monitoring pipelines** for **OpenGPT-X**, improving model evaluation efficiency by implementing automated feedback loops and integrating **MLOps** best practices.
- Collaborated on full-stack development tasks for the **Python SDK for GenAI** focusing on API development, testing, documentation.
- Conducted **load/stress testing** using Locust to optimize scalability and performance of GenAI server infrastructure, identifying bottlenecks.
- Co-authoring a paper on "**Comparison of Tools for Monitoring LLM Trustworthiness**," contributing to the assessment of various monitoring solutions for large language models.

IFAK Institute for Automation and Communication eV **Magdeburg, Germany**
Wissenschaftlicher Mitarbeiter (Research Assistant) *11/2023 – 09/2024*
- Developed an **end-to-end AI pipeline** for duplicate bug detection in software systems using **NLP models (BERT, SBERT)**, improving software delivery timelines.
- Implemented a **RAG (Retrieval-Augmented Generation) architecture** with **MongoDB vector databases** to enhance contextual retrieval and semantic matching capabilities.
- Conducted rigorous **comparative analysis of transformer-based models** (e.g., BERT vs. SBERT) for semantic similarity tasks.

Otto-von-Guericke University Magdeburg **Magdeburg, Germany**
Wissenschaftlicher Mitarbeiter (Research Assistant) *04/2023 – 04/2024*
- Developed and maintained a **Flask web app** for visualizing geolocation simulation results in last-mile delivery.
- Developed Android mobile app to conduct work cycle analysis for the EAASY project, resulting in increase in efficiency.
- Utilized various distance optimization algorithms and tools, including **Google Maps API and OR-Tools**, to optimize routing and pathfinding based on specified parameters.URL: **EAASY System Project**
- Served as a Data Mining Tutor, guiding students in concepts and techniques enhancing their practical skills & concepts through learning materials.

AIIO Gmbh **Magdeburg, Germany**
Full Stack Developer Working Student *05/2023 – 07/2023*
- Integrated **OpenAI APIs** into a project management application, enhancing functionality and user productivity
- Developed, maintained features and resolved software bugs using React, Django, and MongoDB, ensuring scalable and efficient application performance & user experience.
- Designed and executed comprehensive unit tests, guaranteeing high-quality and reliable software deliverables.

Tata Consultancy Service Pvt Ltd   **Pune, India**
System Engineer as Software Developer   *11/2020 – 09/2022*

- Developed and delivered digital life insurance solutions for UK-based financial and insurance services clients using Angular, Ionic, Android, iOS, and microservices architecture.
- Developed modules for biometrics on iOS and Android platforms, integrating secure authentication methods to safeguard user access.
- Created and managed glossary and user details modules to ensure accurate data handling within applications.
- Assisted the DevOps team in automating deployment pipelines for mobile application using CI/CD tools such as GitLab CI, ensuring rapid and reliable delivery of software updates.
- Worked and developed on microservices architecture to ensure scalability and reliability of applications.

Dietosure Labs Pvt Ltd.   **Jodhpur, India**
Technical Assistant/Co-founder   *08/2018 – 08/2020*

- Developed a health-info application with Flutter to monitor user glucose levels and other health metrics.
- Conducted exploratory data analysis (EDA) on over 20 months of data from 15 patients, uncovering new correlations.
- Achieved 85% accuracy in automating analysis and generating patient reports using Python libraries such as NumPy, Pandas, and Matplotlib.

INTERNSHIP

IndiaMart Intermesh Pvt Ltd   **Noida, India**
Android Developer Internship   *06/2019 – 07/2019*

- Developed an Android application utilizing a custom geolocation process to determine user **locality without GPS/internet connectivity**, while engineering a **data pipeline** that scraped, and processed **~2 million cell** tower records.

Equilibrise Technologies Pvt Ltd.   **Jodhpur, India**
Summer Internship   *06/2018– 08/2018*

- Engineered a data preprocessing pipeline using Pandas and NumPy for efficient data transformation and developed and trained **Deep Neural Networks** for recognizing handwritten digits.

PERSONAL PROJECTS

Customer Satisfaction End-to-End MLOps Project

- Spearheaded a comprehensive machine learning project to enhance customer satisfaction by establishing a robust **MLOps** pipeline with **ZenML**, implementing automated workflows for **data versioning, model training, evaluation, and deployment**.

Plant Disease Detection

- Developed an **AI-powered Android application** for real-time plant disease detection, utilizing a **TensorFlow**-based transfer learning model that achieved **89% accuracy** in disease classification.

SKILLS & INTERESTS

- **Technicall Skills:** Python, Typescript, TensorFlow, PyTorch, Angular, Flask, Gradio, REST APIs, MLOps, LLM, Microservices, PyTest, Jasmine, Vector Databases, ZenML, MLflow, Docker, Git, AWS, RAG.
- **Soft Skills:** Teamwork, Communication, Analytical Thinking, Goal-Oriented, Problem Solving.
- **Languages:** English (C1, Business Proficient), German (B1)