Greshma Shaji

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Work: Bauerngasse 3B, 90443 Nürnberg (Germany)

WORK EXPERIENCE

Machine Learning Operations Engineer (MLOps) Working Student

SAP [01/02/2024 – 31/07/2024]

City: Walldorf | **Country:** Germany

- **Error Handling Improvement:** Developed an HTML report generator using Go in Azure pipelines, reducing pipeline error identification time by 30% and enhancing operational efficiency.
- **API Integration:** Integrated a REST API to facilitate error communication with an LLM, increasing error resolution speed by 25%.
- **Data Manipulation:** Utilized Excel for data tasks, improving data analysis accuracy by 20%.
- **Resource Optimization:** Designed and implemented a Go-based resource cleanup module, reducing manual workload by 50% and preventing resource wastage.
- **Voice-enabled Chatbot Development:** Created a voice-enabled chatbot using pyttsx3, SentenceTransformer, and SAP BTP's GPT-4-32k, reducing pipeline query resolution time by 40%.
- **Backend Development:** Developed a Flask backend to handle voice queries, streamlining chatbot interface operations.

Student Research Assistant

Fraunhofer IIS [16/06/2023 – 15/12/2023]

City: Nürnberg | **Country:** Germany

- **Recommendation System Development:** Contributed to an advanced recommendation system, improving patient treatment planning precision by 20%.
- **Data Analysis Enhancement:** Enhanced data analysis capabilities using Python, increasing analytical efficiency by 30%.
- **Prediction Accuracy:** Improved prediction accuracy and reliability by implementing and fine-tuning a Random Forest Classifier, achieving a 15% boost in model performance.
- **Model Transparency:** Integrated mlflow for model transparency and reproducibility, ensuring consistent workflow documentation.
- **Team Collaboration:** Fostered teamwork by establishing a well-maintained GitLab code repository, improving collaboration and code quality by 25%.

Working Student in Quality Assurance

Retorio [15/10/2022 – 13/04/2023]

City: Munich | **Country:** Germany

1. **Test Automation Framework Development:** Designed and developed test automation frameworks using Puppeteer and Jest, reducing test execution time by 40%.
2. **CI Integration:** Integrated automation frameworks with GitLab CI, enhancing testing efficiency by 35%.
3. **Bug Identification:** Conducted manual testing to identify bugs and issues, improving platform stability by 25%.
4. **Comprehensive Test Coverage:** Scripted test cases in JavaScript, ensuring 95% test coverage.
5. **Performance Reporting:** Reported daily performance metrics to the development team lead, ensuring timely delivery of high-quality scripts.
6. **Documentation:** Documented test procedures and results, facilitating future reference and ensuring reproducibility.

Software developer

IBM [11/08/2021 – 02/09/2022]

City: Bangalore | **Country:** India

- **Automation Testing and DevOps:** Conducted UI automation testing and DevOps using Puppeteer, JavaScript, and Ansible, reducing manual testing efforts by 60%.
- **Automated Test Scripts:** Developed automated test scripts using Puppeteer, JavaScript, Jest, Allure, and Python, increasing test coverage by 50%.
- **Framework Development:** Built a new automation framework for IBM Cloud Pak for Data, improving test efficiency by 45%.
- **Test Result Analysis:** Analyzed test results daily, improving defect detection rate by 30%.
- **Mentoring and Code Reviews:** Mentored team members and participated in code reviews, enhancing code quality by 25%.
- **Use Case and Specification Development:** Developed use cases, user interface specifications, and user requirement documents, ensuring clear and precise project documentation.
- **Reporting:** Generated reports using Allure framework, improving transparency and communication with stakeholders.
- **Agile Participation:** Attended daily scrum meetings, actively sharing risks and roadblocks, and ensuring smooth project progress.

EDUCATION AND TRAINING

Masters in Data Science

Friedrich-Alexander-Universität Erlangen-Nürnberg [01/10/2022 – Current]

Address: 91058 Erlangen (Germany) | **Field(s) of study:** Natural sciences, mathematics and statistics | **Final grade:** 2.2 | **Type of credits:** 80/120

B.Tech(Honours)

APJ Abdul Kalam Technological University [01/08/2017 – 30/06/2021]

Address: CET Campus, Alathara Rd, Ambady Nagar , 695016 Thiruvananthapuram,Trivandrum (India) | **Final grade:** 1.6

Higher Secondary Education (12th grade)

Catholicate Higher Secondary School , Pathanamthitta [01/06/2015 – 30/03/2017]

Address: 689645 Pathanamthitta, (India)

LANGUAGE SKILLS

Mother tongue(s): Malayalam

Other language(s):

English

LISTENING C1 **READING** C1 **WRITING** C1

SPOKEN PRODUCTION C1 **SPOKEN INTERACTION** C1

German

LISTENING A1 **READING** A1 **WRITING** A1

SPOKEN PRODUCTION A1 **SPOKEN INTERACTION** A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

PUBLICATIONS

[2021]

Detecting COVID-19 from Chest X-Ray Images using Deep Learning 2021 5th International Conference on Information Systems and Computer Networks (ISCON), 2021, pp. 1-4

SKILLS

Technical Skiils

- **Programming Languages**: JavaScript, Python, GO
- **Software Development:** HTML5, CSS , REST API creation and integration
- **Databases:** SQL (MySQL), MongoDB
- **Development Tools:** Visual Studio Code (VS Code) , Git , Figma
- **DevOps & Test Automation:** Jenkins, Ansible, Azure DevOps, Puppeteer, Jest, Jasmine, POSTMAN, SOAP UI
- **Containerization:** Docker, Kubernetes
- **Data Science & Analysis:** TensorFlow, Keras, Pandas, NumPy, Matplotlib, Scikit-Learn, Data Wrangling, Data Visualization

1. **Natural Language Processing:** SentenceTransformer, GPT-4, Meta llama

- **Technical Documentation:** Documenting test procedures and results
- **Problem Solving**: Strong analytical and problem-solving skills
- **Agile Methodology:** Agile daily scrum, Jira for project tracking and management
- **Operating system:** Windows, MacOS, Linux

PROJECTS

[01/08/2020 – 30/03/2021]

Detecting COVID-19 from Chest X-Ray Images using Deep Learning This project aimed to identify COVID-19 in chest X-rays using deep learning models. Given the impact of COVID-19 on respiratory epithelial cells, X-rays can determine the condition of a patient's lungs. The goal was to use pre-trained models to develop an image classification model that predicts COVID-19 in chest X-ray scans with high accuracy.

- **Models Used:** Employed four pre-trained models for comparison.
- **Best Model:** DenseNet201 achieved the highest accuracy of 96.54% in detecting COVID-19 from chest X-rays.
- **Implementation:** Used TensorFlow and Keras as neural network frameworks.
- **Data Source:** Images collected from the Kaggle repository.
- **Impact:** The model can be used by medical professionals to quickly identify COVID-19 positive patients using chest X-ray scans on any system.

[01/04/2023 – 31/08/2023]

3D Dendritic Spine Analysis using Deep Learning Designed and executed a research project focused on analyzing dendritic spines, critical structures in brain function associated with learning, memory, and plasticity.

- **Neural Networks:** Utilized pre-trained neural networks within DeepD3, annotated and validated across diverse datasets.
- **Training:** Trained the DeepD3 model using microscopy data, achieving outstanding results with Mean Squared Error (MSE) loss for both dendritic spines and dendrites.
- **Predictions:** Generated predictions based on benchmark 3D image stacks, creating 3D regions of interest (ROIs) for dendritic spines.
- **Comparison:** Conducted a thorough comparison between the generated ROI results and human-annotated data, calculating recall and precision metrics to evaluate the model's performance.
- **Impact:** Successfully applied deep learning techniques to automate the quantification of dendritic spines, advancing the understanding of neural structures crucial for learning and memory.

[01/10/2023 – 31/03/2024]

OsmXchange: Online Marketplace for Power Voltage Services Led the "Starting Business Ideas @ FAU" project at FAU's Innovation Lab as Chief Marketing Officer (CMO) and Backend Developer, focusing on Wearable and Ubiquitous Computing.

- **Requirement Collection:** Played a pivotal role in collecting requirements for the OsmXchange platform from Omicron and contributing to the initial Figma design.
- **User Interviews:** Conducted user interviews to refine project requirements and iteratively improved the design.
- **Backend Development:** Utilized backend development skills in Node.js, Express.js, and MongoDB to create a robust prototype.
- **Project Presentation:** Presented a compelling pitch in the final round, culminating in the successful completion of the startup idea.
- **Impact:** Showcased effective integration of marketing strategies and technical development expertise, leading to the project's success.