Vippin Kumar Jeetmal

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Date of birth: 16/02/1997 **Place of birth:** Bangalore, India **Nationality:** Indian

EDUCATION AND TRAINING

[04/2022 – Current]

MSc. Computer Science

Rheinland-Pfälzische Technische Universität Kaiserslautern, Germany

| **Final grade:** 1,8 | **Thesis:** Multi-View Face and Gesture Animation With Dynamic Gaussians

[08/2014 – 05/2018]

BE Computer Science and Engineering

Nitte Meenakshi Institute of Technology (Visvesvaraya Technological University), India

| **Final grade:** 1,38 | **Thesis:** Smart shopping cart with IoT

WORK EXPERIENCE

[02/2024 – Current]

Research Assistant at Deutsches Forschungszentrum für Künstliche Intelligenz GmbH | Kaiserslautern, Germany

- Deploying an in-house Industry 4.0 solution by provisioning the **Eclipse BaSyx** environment on **OpenShift**
- Configuring **Raspberry Pi** with the OctoPrint 3D print module and integrating it with a 3D printer using the **OPC UA**
- Developing a **Spring Boot** microservice in **Java** to interface with the 3D printer and production plant through **OPC UA**
- Designing a BPMN-based orchestration pipeline in **Camunda** with **Java**

[06/2023 – Current]

Research Assistant at Technologie-Initiative Smartfactory KL | Kaiserslautern, Germany

- Configuring and deploying the open-source **OpenShift** solution on in-house servers to optimise **Kubernetes** and **Docker orchestration**
- Integrating **Eclipse BaSyx** in **Java** to host **Asset Administration Shells (AASX)**
- Designing and implementing **Tekton Pipelines** within OpenShift to establish a robust **CI/CD** framework
- Configuring **OpenSearch** with **Opentelemetry** on **OpenShift** to enable auto-instrumentation and centralised logging for deployed **Java** and **Python microservices**

[05/2023 – 12/2023]

Research Assistant at Deutsches Forschungszentrum für Künstliche Intelligenz GmbH | Kaiserslautern, Germany

- Processed Floating Car Data with **Python** using **Pandas**, **NumPy**, and **Elasticsearch** for Smart City analytics
- Performed data preprocessing in Python for noise reduction, missing value handling, and outlier removal, enabling reliable trip-level analysis
- Built interactive dashboards with **Plotly** in **Python**, allowing city planners to identify peak congestion and enabling data-driven decisions around urban mobility and infrastructure planning

[07/2018 – 02/2024]

Software developer at Siemens Technology and Services Private Limited | Bengaluru, India

- Actively engaged in the full **software development lifecycle** following **Agile** and **Scrum** methodologies
- Built a web-based frontend configuration tool using **Angular** and **TypeScript**
- Built a **REST API** backend application in **Node.js and Golang**
- Implemented an inter-process communication system between different microservices with the **gRPC protocol** and **Golang**
- Contributed to the design and optimisation of **DevOps pipelines** using **GitLab CI/CD** and **Jenkins**
- Leveraged **Helm charts** to manage application versioning
- Designed and implemented a resilient backup and restore solution for **Kubernetes** nodes

PROJECTS

[11/2024 – 05/2025]   **Master Thesis - Multi-View Face and Gesture Animation With Dynamic Gaussians**

- Designed and developed a **multi-view MoCap** system for capturing facial expressions and hand gestures, enabling realistic upper-body **Gaussian Avatars**
- Developed a data preprocessing pipeline to process the captured **dataset**, ensuring readiness for the **Gaussian Avatar** creation
- The pipeline included **camera calibration, keypoint detection, body segmentation, background matting,** and **SMPLX-based body model fitting**
- Curated a diverse dataset of multiple users performing various facial expressions and hand gestures that can be used for different applications
- Developed an avatar model based on **3D Gaussian splatting** to support upper-body motion synthesis, ensuring realistic replication of facial expressions and hand gestures

[01/2018 – 05/2018]   **Smart Shopping cart with IoT integration**

- Developed a smart shopping cart system using **RFID** and load sensors, enabling a cashless and secure shopping experience
- Programmed the **Arduino Uno** using **Python** to integrate sensors and built an **Android application** to enhance system functionality
- Utilised **Firebase database** for real-time data management, enabling seamless synchronisation between the cart and the Android application

LANGUAGE SKILLS

English - C1 | German - A2 | Hindi and Kannada - Native

ADDITIONAL INFORMATION

Technical Skills

- **Programming Languages** - Angular, C, C++, Go, JavaScript, Java, Node.js, Python
- **Cloud and DevOps** - Docker, Kubernetes, OpenShift, Git, GitLab CI/CD, Jenkins, Rancher, Helm charts
- **Databases**: SQL, MongoDB, Redis, SQLite, PostgreSQL
- **Frameworks and APIs** - Spring Boot, gRPC, MQTT, REST, Camunda BPM Modeller, OPCUA, Agile, SCRUM, kafka
- **AI and Machine Learning** - Deep Learning, PyTorch, TensorFlow, OpenCV, 3D Gaussian Splatting, NeRF
- **Data Analysis and Visualisation** - Pandas, NumPy, Matplotlib, Plotly, ElasticSearch, OpenSearch, Open Telemetry
- **Integrated Development Environments (IDEs)**: Visual Studio Code, Jupyter Notebook, Eclipse, Android Studio

Achievements and Volunteering

- **Udemy certified** - SQL and PostgreSQL: The Complete Developer's Guide Link
- Participated in **Capture the Flags** Cloud Hackathon by **Fraunhofer IESE, Dec 2024**
- Winners of the use-case **CO2 emission optimisation for Grain Fields** at the **Smart Farming Hackathon** by **Innovationsagentur Rheinland-Pfalz** and **Fraunhofer IESE Kaiserslautern, Dec 2024**
- Won the **HackARthon**, a 24-hr AR hackathon conducted by **e4Lab Kaiserslautern, Feb 2023**
- Volunteered at the job fair **Treffpunkt Kaiserslautern, June 2023** and **June 2024**

Kaiserslautern, Germany

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