Vippin Kumar Jeetmal

Date of birth: 16/02/1997 | **Nationality:** Indian | **Gender:** Male | **Phone number:** (+49) 015259698201 (Mobile) | **Email address:** vipin12jain@gmail.com | **LinkedIn:** linkedin.com/in/vippin-kumar | **Github:** https://github.com/vipinsdk |

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ABOUT ME

Computer Vision and **Cloud Computing Engineer with 5+ years of experience** developing scalable cloud solutions **Docker**, **Kubernetes**, **OpenShift** and **3D reconstruction**. Passionate about integrating **AI-driven** applications with cloud infrastructure. Seeking full-time opportunities in **Computer Vision, AI Research, or Software Development**

DIGITAL SKILLS

Angular | C | Camunda Modeler BPMN | Docker | Elasticsearch | Git | Go | gRPC | Helm charts | JAVA | Jenkins | Kubernetes | Matplotlib | MongoDB | MQTT | Node.js | NumPy | OPC-UA | OpenCV | Openshift | Pandas | Plotly | Python | Pytorch | Rancher | Redis | REST | Spring Boot | SQL | TensorFlow | VS Code

WORK EXPERIENCE

01/02/2024 – CURRENT Kaiserslautern, Germany
STUDENT RESEARCH ASSISTANT DEUTSCHES FORSCHUNGSZENTRUM FÜR KÜNSTLICHE INTELLIGENZ GMBH (DFKI)

- Deployed an in-house **Industry 4.0 solution** by setting up the **BaSys** environment on the **OpenShift** platform enabling real-world industrial applications
- Installed **Raspberry Pi OS** with the **OctoPrint** module to enable seamless interaction with a **3D printer** and integrated **OPC UA** to automate print job execution
- Developed a **Spring Boot application** to interact with a **3D printer** and **Production plant** via OPC UA, integrating it with **Camunda BPMN** for process orchestration
- Designed a **BPMN** orchestration pipeline to automate the entire manufacturing process from 3D printer to production plant

01/06/2023 – CURRENT Kaiserslautern, Germany
STUDENT RESEARCH ASSISTANT TECHNOLOGIE-INITIATIVE SMARTFACTORYKL E.V.

- Deployed **OpenShift** on the in-house server to optimize the configuration of **Kubernetes** and **Docker**, automating deployment processes and facilitating seamless, scalable application deployment for development teams
- Integrated **Eclipse BaSyx** to host **Asset Administration Shells (AAS)**, enabling the development of digital twin solutions for advanced asset management, real-time monitoring, and optimizing production processes
- Implemented **Tekton pipelines** with Openshift for **continuous integration and deployment (CI/CD)**, ensuring efficient development workflows, reducing deployment time and enhancing code quality

15/05/2023 – 31/12/2023 Kaiserslautern, Germany
STUDENT RESEARCH ASSISTANT DEUTSCHES FORSCHUNGSZENTRUM FÜR KÜNSTLICHE INTELLIGENZ GMBH (DFKI)

- Leveraged **Elasticsearch** to process and analyze **Floating Car Data** based on distance, time of day, and day as part of the **Smart City** project
- **Preprocessed data** by handling missing values, filtering noise, and removing outliers, then developed trip insights to identify commute patterns and peak travel times
- Created interactive visualizations using **Plotly** to effectively analyze and interpret processed data, enabling better insights into commute trends and urban mobility

07/2018 – 02/2022 Bengaluru, India
SOFTWARE DEVELOPER SIEMENS TECHNOLOGY AND SERVICES PRIVATE LIMITED

- Worked on **Simatic Edge** project, an edge computing platform for preprocessing industrial data before cloud-based **ML/AI** analysis
- Developed a web application using **Angular** to configure field-level endpoints in **industrial automation systems**
- Built a REST API server using **NodeJS**, following **OpenAPI** specifications with **Swagger documentation**
- Implemented an RPC system using **gRPC** and **Go** for efficient communication between Docker containers
- Contributed to **DevOps** pipelines using **GitLab CI/CD**, **Jenkins**, and leveraged **Helm charts** for version control of applications
- Designed and implemented a backup and restore system for **Kubernetes** nodes, ensuring **data reliability** and preventing loss during system upgrades

05/2017 – 07/2017 Bengaluru, India
SDE INTERN ENSATUS TECHNOLOGY INDIA PRIVATE LIMITED

- Developed a **location-based social media application**, enabling users to share favourite locations, interact socially, and manage daily tasks
- Implemented database management using **PHP** and **MySQL**, optimizing data storage and retrieval ensuring smooth application performance

EDUCATION AND TRAINING

04/2022 – CURRENT Kaiserslautern, Germany
MSC. COMPUTER SCIENCE Rheinland-Pfälzische Technische Universität Kaiserslautern

Machine Learning, 2D Image Processing, Collaborative Intelligence, Foundations of Software Engineering, Very Deep Learning, 3D Computer vision, Neural Networks for NLP, Applications of Machine learning and data Science

Field of study Computer Science, Specializations - Intelligent Systems, Software Engineering

08/2014 – 05/2018 Bengaluru, India
BE COMPUTER SCIENCE AND ENGINEERING Nitte Meenakshi Institute of Technology (Affiliated to Visvesvaraya Technological University)

PROJECTS

01/11/2024 – CURRENT
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 animation for **AI-driven avatars**
- Developed a data preprocessing pipeline to process the captured dataset, ensuring readiness for 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 various applications
- Adapted the **Gaussian Avatars** model to support **upper-body motion synthesis**, ensuring realistic replication of facial expressions and hand gestures

01/11/2023 – 31/03/2024
Neural Radiance Fields for Novel View Synthesis

- Created a custom dataset to evaluate the effectiveness of generating novel views and reconstructing 3D scenes of **NeRF**, **Mip-NeRF,** and **Instant-NGP**
- Performed qualitative and quantitative analysis and utilized **TensorBoard** to track **PSNR**, **SSIM**, and **LPIPS** metrics, providing insights into model performance and optimization trends

01/2018 – 05/2018
Smart shopping cart for a faster and more secure shopping experience (IOT)

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

ADDITIONAL INFORMATION

Achievements & Volunteering

- Participated in **Capture the Flags Cloud Hackathon** by **Fraunhofer IESE**, Dec 2024
- Winners of the use-case **CO2 emission optimization for Grain Fields** at the **Smart Farming Hackathon** by **Innovationsagentur Rheinland-Pfalz** and **Fraunhofer IESE**, 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
- Mobile application development workshop, Bengaluru 2017

Language Skills

English, German, Hindi, Kannada