

Vippin Kumar Jeetmal

Kaiserslautern, Germany, 67663 | +49 15259698201 | vipin12jain@gmail.com |
linkedin.com/in/vippin-kumar | github.com/vipinsdk

Summary

Dynamic Fullstack Software Engineer with 5+ years of experience building AI-driven, cloud-native applications, from Industry 4.0 digital twins to scalable microservices. Equally skilled in designing robust backend services with Java, Python, Node.js, and Go, and crafting modern frontend applications with Angular. Experienced in containerization and orchestration using Docker and Kubernetes. Seeking roles in AI research, cloud computing, or full-stack development, eager to drive impact in Germany's tech ecosystem

Work Experience

Research Assistant

February 2024 – Present

German Research Centre for Artificial Intelligence (DFKI)

Kaiserslautern, Germany

- Deployed an in-house Industry 4.0 solution by provisioning the Eclipse BaSyx environment on the OpenShift platform, enabling real-world industrial use cases and digital twin applications
- Configured Raspberry Pi with the OctoPrint 3D print module and integrated it with a 3D printer using the OPC UA protocol, automating remote print jobs and cutting manual intervention by 60%
- Developed a Spring Boot microservice in Java to interface with the 3D printer and production plant through OPC UA, ensuring robust process integration and orchestrated execution through BPMN workflow
- Designed a BPMN-based orchestration pipeline in Camunda with Java, automating the manufacturing workflow and reducing overall execution time by 30%

Research Assistant

June 2023 – Present

Technologie-Initiative Smartfactory KL

Kaiserslautern, Germany

- Configured and deployed the open-source OpenShift solution on in-house servers to optimise Kubernetes and Docker orchestration, enabling automated deployment workflows and ensuring scalable, high-availability, reducing deployment time by 70%
- Integrated Eclipse BaSyx in Java to host Asset Administration Shells, improving digital twin monitoring accuracy by 25%
- Designed and implemented Tekton Pipelines within OpenShift to establish a robust CI/CD framework, accelerating build and deployment cycles, improving code quality, and enabling continuous delivery
- Configured OpenSearch with Opentelemetry on OpenShift to enable auto-instrumentation and centralised logging for deployed Java and Python microservices, improving observability through traces and spans and system diagnostics

Research Assistant

May 2023 – December 2023

German Research Centre for Artificial Intelligence (DFKI)

Kaiserslautern, Germany

- Processed Floating Car Data with Python using Pandas, NumPy, and Elasticsearch for Smart City analytics, improving the accuracy of urban traffic insights
- 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

Software Developer

July 2018 – February 2022

Siemens Technology and Services Private Limited

Bengaluru, India

- Actively engaged in the full software development lifecycle, from requirements gathering and design to implementation, testing, and deployment, following Agile and Scrum methodologies to ensure timely, high-quality delivery
- Contributed to the development of an edge computing platform designed for the preprocessing of industrial data, enabling optimised downstream machine learning and AI analytics in cloud environments
- Built a web-based configuration tool using Angular and TypeScript for the frontend and Node.js with REST APIs for the backend, improving operator productivity by 50%
- Implemented an inter-process communication system using gRPC and Go to facilitate high-performance, language agnostic communication between Docker containers, enabling efficient service-to-service interaction within a containerised microservices architecture
- Contributed to the design and optimisation of DevOps pipelines using GitLab CI/CD and Jenkins, while leveraging Helm charts to manage application versioning and ensure consistent, repeatable deployments across environments
- Designed and implemented a resilient backup and restore solution for Kubernetes nodes, safeguarding data integrity and minimising the risk of loss during system upgrades, version control and maintenance operations

Master Thesis

Multi-View Face and Gesture Animation With Dynamic Gaussians

PyTorch, Gaussian splatting, OpenCV, 3D Reconstruction, Pytorch3D

November 2024 - May 2025

- 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 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 various applications
- Developed an avatar model based on Gaussian splatting to support upper-body motion synthesis, ensuring realistic replication of facial expressions and hand gestures

Education

Rhineland-Palatinate Technical University of Kaiserslautern

Kaiserslautern, Germany

Master of Science in Computer Science (Intelligent Systems & Software Engineering)

April 2022 – Present

Nitte Meenakshi Institute of Technology

Bengaluru, India

Bachelor of Engineering in Computer Science and Engineering

August 2014 – May 2018

Skills

Programming Languages: Python, Java, Node.js, Angular, C, C++, GoLang, Typescript

Databases: SQL, MongoDB, Redis, PostgreSQL

Cloud and DevOps: Docker, Kubernetes, OpenShift, Git, GitLab CI/CD, Jenkins, Rancher, Helm

Frameworks and APIs: Spring Boot, gRPC, MQTT, REST APIs, Camunda BPM Modeller, OPCUA, Agile, SCRUM

AI and Machine Learning: Deep Learning, PyTorch, TensorFlow, OpenCV, 3D Gaussian Splatting, NeRF

Integrated Development Environments (IDEs): Visual Studio Code, Jupyter Notebook, Eclipse, Android Studio

Data Science: Pandas, NumPy, Matplotlib, Plotly, ElasticSearch, Opensearch

LANGUAGE SKILLS

English: Fluent (C1)

German: Conversational (A2)

Hindi, Marwadi, Kannada: Native

Achievements and Volunteering

- Participated in Capture the Flags Cloud Hackathon by Fraunhofer IESE, December 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, December 2024
- Won the HackARthon, a 24-hr AR hackathon conducted by e4Lab Kaiserslautern, February 2023
- Volunteered at the job fair Treffpunkt Kaiserslautern, June 2023 and June 2024
- Mobile application development workshop, Bengaluru 2017