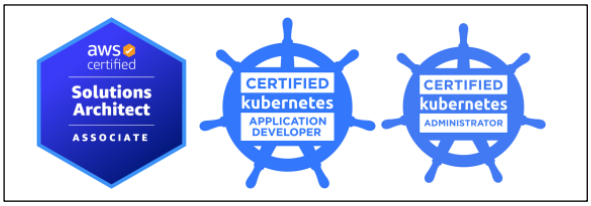
Curriculum Vitae



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Professional Summary

- Software developer with experience in automotive software, frontend and backend systems, and data-driven applications
- Focus on full-stack development, holding a Master's degree in Automotive Software Engineering, with expertise in Python, Django, ReactJS, NextJS, NodeJS, RESTful APIs, and cloud technologies
- Experienced in agile methodologies, web development, data visualization, and performance optimization of complex backend systems

Key Strengths:

- FullStack Development
- Python Programming
- RESTful API Design
- Data Analysis
- Computer Vision

Certifications

- AWS Certified Cloud Practitioner - September 2023
- AWS AI Practitioner - February 2025
- AWS Solutions Architect Associate (SAA) - May 2025
- Certified Kubernetes Application Developer (CKAD) - July 2025
- Kubernetes Cloud Native Associate (KCNA) - July 2025
- Certified Kubernetes Administrator (CKA) - August 2025
- Hashicorp Terraform Associate – September 2025

Professional Experience

04.2021 – Present ***Software Engineer***
Segula Technologies GmbH, Cologne, Germany

Key responsibilities:

- Collaborated with cross-functional teams to develop and deploy scalable software solutions
- Designed and implemented frontend and backend systems, including corresponding database architectures for diverse applications
- Utilized Python and related libraries for application development and data analysis
- Applied Clean Code and SOLID principles in backend, API, and data processing solutions to ensure readability, maintainability, and long-term scalability of the codebase.

Key projects:

1. **VVM Project – Vehicle Maneuver Analysis & Route Planning**
   Description: Developed an application for detecting basic vehicle maneuvers along mapped routes
   Tools: Python, OpenStreetMap, Folium, OSMnx, NetworkX, Plotly, GitLab, JIRA
   Contributions:
   - Developed a solution achieving 95% accurate detection of basic maneuvers (e.g., acceleration, deceleration, directional changes) based on road curvature, junctions
   - Improved detection accuracy by 30% in complex scenarios such as intersections, turns, and pedestrian crossings
   - Integrated and optimized geospatial data visualization, enhancing road element recognition by 40%
   - Processed and analyzed data from over 1,000 km of mapped routes using multiple Python libraries efficiently
   - Reduced processing time by 50% through optimized algorithms and targeted use of OpenStreetMap (OSM) data

2. **Web Application Development**
   Description: Designed and maintained backend infrastructure including RESTful APIs, while contributing to frontend development to ensure data integrity, performance, and user experience
   Tools: Django, Python, RESTful APIs, MySQL, ReactJS, NextJS, Tailwind CSS, Swagger, GitLab, Trello, Figma
   Contributions:
   - Designed and optimized a MySQL database, achieving 40% faster query performance
   - Developed and maintained 50+ RESTful API endpoints to enable efficient frontend-backend communication
   - Implemented JWT tokens for secure authentication and validation
   - Reduced API response time by 50% through optimized queries, caching, and ORM techniques
   - Built backend solutions with Django and integrated Python libraries
   - Developed UI components and frontend screens with ReactJS, NextJS, and Tailwind CSS to ensure a modern and responsive user interface
   - Implemented Swagger for API documentation, reducing onboarding time by 60%

05.2019 – 09.2020 ***Internship and Master Thesis***
AVL Deutschland GmbH, Stuttgart, Germany

Roles & responsibilities:
Master Thesis

- Optimized raw image storage for ADAS using computer vision and deep learning methods
- Developed a method to reduce raw image data size by detecting non-traffic-relevant regions
- Applied classical computer vision techniques in combination with deep learning models for irrelevant content segmentation
- Addressed challenges such as detecting sky regions under varying lighting conditions and selecting suitable compression techniques

Tools: Python, Jupyter Notebook, NumPy, Computer Vision, Deep Learning

Internship

- Analyzed emissions data and developed big data solutions in the automotive domain
- Performed analysis and evaluation of emissions test data from various OEMs
- Developed Python scripts to automate and optimize existing tools
- Improved codebase by applying object-oriented structuring with classes and functions

Tools: Python, Jupyter Notebook, AVL Concerto, MS Excel, Keras, PyCharm

01.2015 – 12.2017 ***Software Engineer***
Changepond Technologies, Chennai, India

Key responsibilities:

- Contributed to the support team of a Struts-based Java web application
- Created and maintained stored procedures and managed application and database servers
- Developed function-specific components following agile methodology
- Handled bug fixes, performance optimization, and regular system maintenance

Tools: Java 1.7, Struts, Spring, Eclipse, HTML, JavaScript, CSS, Microsoft SQL, SVN, JIRA

Educational Qualifications

04.2018 – 03.2021	M.Sc., Automotive Software Engineering Technische Universität Chemnitz, Germany
07.2009 – 05.2014	M.Sc., Software Engineering Sri Ramakrishna Engineering College, India

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Skills

- **Programming & Frameworks:** Python, Java, JavaScript, NodeJS, ReactJS, NextJS, Django, RESTful APIs
- **Databases:** MySQL, MSSQL, Oracle, MongoDB, DynamoDB, RDS, SQLite
- **Web Development**: Django, RESTful APIs
- **Cloud & DevOps:** AWS (EC2, S3, Lambda, IAM), Terraform, Docker, Kubernetes (CKA, CKAD), Helm, Kustomize, GitLab, Bitbucket
- **Data Engineering & Visualization:** Pandas, NumPy, Plotly, Matplotlib, Folium
- **Testing & QA:** Postman, PyTest, Unit Testing, Code Reviews
- **Security:** JWT, OAuth 2.0
- **Tools & Collaboration:** JIRA, Trello, Confluence, Agile (Scrum, Kanban)
- **Operating Systems:** Linux (Ubuntu, CentOS), Windows

Languages

English:	Fluent
German:	Good Knowledge (B1)
