Dennis Kasper

Software Engineer

📍 Munich, Germany
📧 Email | 💼 LinkedIn | 🐙 GitHub | 🌐 Website

🧑‍💼 Work Experience

Full Stack Web Developer/DevOps Engineer — FEV EVA GmbH

Jan. 2021 – Present — Hybrid, Munich

- **Cloud Computing & DevOps:**
  Proficient in AWS services including EC2, S3, RDS, Lambda, and Fargate.
  Experience with Terraform for Infrastructure as Code (IaC) to manage cloud resources.
  Familiarity with CI/CD pipelines and tools like GitHub Actions for automated deployments.
  Knowledge of containerization using Docker for scalable application deployment.
- **Frontend Development:**
  Developed user interfaces with modern frontend frameworks and libraries like React and Angular.
- **Backend Development:**
  Experienced with Node.js and Express.js for building robust RESTful APIs. Proficient in Python for backend development, including experience with frameworks like Flask and FastAPI.
- **Database Management:**
  Proficient in SQL and PostgreSQL, including database design and optimization. Understanding of data modeling and normalization. Familiarity with database migration tools and ORM like Drizzle.

CFD/FEM Simulation Engineer — FEV EVA GmbH

Nov. 2016 – Dec. 2020 · 4 Years 2 Months — On-site, Munich

- **FEM and CFD for Lithium-Ion Batteries:**
  Conducted thermal-electro-chemical simulations using FEM and CFD for lithium-ion battery design in Battery Electric Vehicles (BEV) and Plug-in Hybrid Electric Vehicles (PHEV).
  Utilized FEM for thermal analysis and CFD (MSDM) for electro-chemical modeling to optimize battery performance and thermal management.
  Employed MATLAB, Python, and VBA for pre- and post-processing of simulation data, including visualization and analysis.
  Leveraged Model Order Reduction (MOR) techniques in ANSYS for the analysis of complex battery systems, enhancing computational efficiency and accuracy.
- **CAN Bus Communication and System Integration:**
  Utilized the `python-can` library to implement CAN Bus communication protocols with Raspberry Pi

and PiCan FD, enabling data acquisition, specifically for reading out the error memory from high-voltage storage.
Implemented a user interface (UI) with React to communicate with the Raspberry Pi, providing an intuitive and user-friendly interaction experience.

Research Assistant — ILEK, University of Stuttgart

Oct. 2011 – Sept. 2013 · 2 Years

- Conducted research in lightweight construction.
- Contributed to projects on simulation and model reduction.

🎓 Education

M.Sc. Computational Mechanics — Technical University of Munich

- *2013 – 2016*
  Thesis: Discrete Adjoint Approach to the Spalart-Allmaras Turbulence Model (OpenFOAM)
  📦 GitHub Repository

M.Eng. Civil Engineering — Hochschule Biberach

- *2009 – 2011*
  Thesis: Fluid Flow Simulations in Paint Drying Ovens (P+Z Engineering GmbH)

🛠 Skills

- Languages: Python, JavaScript, TypeScript, SQL, MATLAB, VBA
- Frameworks & Tools: React, Angular, Node.js, Express, FastAPI, Flask, Docker, Terraform
- DevOps: AWS (EC2, S3, RDS, Lambda, Fargate), GitHub Actions, CI/CD, Linux
- Databases: PostgreSQL, SQL, ORM (Drizzle)
- Simulation: FEM, CFD, ANSYS, OpenFOAM
- Embedded Systems & IoT: Raspberry Pi, CAN-Bus

📜 Certifications

- Deep Learning Specialization — Coursera, July 2020
- TensorFlow in Practice — Coursera, June 2020

🏆 Awards

- BDB-Buchpreis — For outstanding academic achievements, 2011 *(Bund Deutscher Baumeister Architekten und Ingenieure BW e.V.)*

🌐 Languages

- German – Native
- English – Proficient / Business Fluent