PARIMAL GAVALI

Backend Engineering | Applied AI & Machine Learning

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Master's student in Informatics for Natural Sciences with nearly three years of backend development experience at Accenture for Commerzbank. Academic project experience in document summarisation and time-series machine learning.

PROFESSIONAL EXPERIENCE

06/2026 - present

Student Assistant - Web Development

Bielefeld University | Bielefeld, Germany | Part-time

- Develop and maintain BIIGLE, a web-based scientific application, using Vue.js and Laravel.
- Improve user-interface components and backend APIs; investigate defects, implement fixes and participate in Git-based code reviews.

03/2023 - 09/2024

Application Development Analyst

Accenture Solutions | Pune, India | Client: Commerzbank

- Developed and maintained Java and Spring Boot microservices for banking workflows and internal applications.
- Translated business requirements into backend solutions with business analysts, product owners and developers.
- Implemented unit and integration tests using JUnit and Mockito, maintaining test coverage above 90%.
- Investigated production incidents and implemented fixes; reviewed code and resolved SonarQube findings.

12/2021 - 02/2023

Application Development Associate

Accenture Solutions | Pune, India | Client: Commerzbank

- Developed Java and Spring Boot backend components and REST services for enterprise banking applications.
- Wrote automated tests, investigated application logs and resolved software defects.

EDUCATION

10/2024 - present

M.Sc. Informatics for Natural Sciences

Bielefeld University | Bielefeld, Germany | Expected graduation: May-June 2027

- **Relevant coursework:** Machine Learning, Deep Learning, Data Mining, Big Data Analytics and Statistical Natural Language Processing.

08/2025 - 01/2026

Erasmus+ Exchange Semester - Computer Science

University of Tartu | Tartu, Estonia

- **Relevant coursework:** Statistical Machine Learning, Applied Cryptography and Databases.

08/2017 - 08/2021

Bachelor of Engineering - Electronics and Telecommunications

Savitribai Phule Pune University | Pune, India

SELECTED ACADEMIC PROJECTS

04/2026 - 08/2026

Early Sepsis Prediction from ICU Time-Series Data

Bielefeld University | Python, PyTorch, scikit-learn, MIMIC-IV

- Developed a machine-learning pipeline for early sepsis prediction using longitudinal intensive care unit (ICU) data.
- Trained and compared Random Forest, gated recurrent unit (GRU) and long short-term memory (LSTM) models across prediction horizons up to 25 hours before sepsis onset.
- Engineered temporal features using fixed and expanding observation windows.
- Evaluated class-imbalanced predictions using area under the ROC and precision-recall curves (AUROC/AUPRC), sensitivity and specificity.

08/2025 - 01/2026

AI-Powered Document and Thesis Summarisation Platform

University of Tartu | University project in collaboration with SEB Bank

- Developed a web application to process theses, reports and research documents and generate summaries of 2 to 5 pages using large language models (LLMs).
- Implemented PDF, DOCX and TXT ingestion, interactive editing, feedback-based alternative summaries and text-to-audio output.
- Containerised the application with Docker; configured Bitbucket Pipelines, end-to-end tests and load testing with Apache JMeter.

TECHNICAL SKILLS

Programming: Python, Java, SQL

Backend and web: Spring Boot, FastAPI, Laravel, Vue.js, REST APIs, microservices

ML & data: PyTorch, scikit-learn, TensorFlow, NumPy, Matplotlib, time-series analysis

Applied AI: OpenAI API, LangChain, retrieval-augmented generation (RAG), vector databases

Testing and quality: JUnit, Mockito, SonarQube, Postman

Development tools: Docker, Git, GitHub, Bitbucket Pipelines

Databases: PostgreSQL, Oracle

HACKATHON

10/2026

Nebius x NVIDIA Hackathon

16-18 October 2026

- Participated in a team working on a challenge provided by Siemens.

CERTIFICATION

Nebius Agentic AI Builder Certification - Nebius Academy | View credential

LANGUAGES

English: C1 (advanced)

German: A2.1 (elementary)