Vijay Babubhai Doba

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🔗 Portfolio Website   in vijay-babubhai-doba   vijaydoba

SUMMARY

Experienced developer with knowledge and experience in web development using technologies like **React and Node.js**, as well as experience with **machine learning** using PyTorch. Currently pursuing a Master's degree in Artificial Intelligence (FAU) with experience in **prompt/OOD detection**, **federated learning**, and **real-time applications based on WebSockets**. My current technical skills include **Linux/Git, TypeScript, Python, and databases**. I aim to utilize these skills in a role where I can work on **scalable and user-centered AI applications**.

EDUCATION

Friedrich-Alexander University Erlangen–Nuremberg (FAU)   *Apr 2023 – Present*
M.Sc. in Artificial Intelligence
- Relevant coursework: Advanced Programming Techniques, HCI, Machine Learning, AI, Business Intelligence, Data Science.
- Location: Erlangen–Nuremberg, Germany.

Gujarat Technological University (GTU)   *Jul 2018 – Apr 2022*
B.E. in Computer Engineering
- Coursework: Data Structures, Algorithms, Database Systems, OOP, Computer Networks, IT Security, AI/ML, Software Engineering.
- GPA: 7.76/10.0; Location: Ahmedabad, IN.

PROFESSIONAL EXPERIENCE

Web Developer   *May 2022 – May 2023*
iFLUTTER   *Erlangen/Remote*
- Development, testing, and maintenance of custom websites according to specifications.
- Creation of modular project structures and updating documentation.
- Troubleshooting, performance optimization, and quality assurance.

Intern — Backend (Laravel)   *Jan 2022 – Apr 2022*
Spider Technology   *Surat/Remote*
- Backend functionality for a sales automation system developed with **PHP Laravel**.
- Integration of **REST APIs** for automation of synchronization and workflows.
- **MySQL** optimization (data structure query performance).

PROJECTS

ID-like Prompt Learning for Few-Shot OOD Detection — *Python, PyTorch, CLIP,*   *2023*
HuggingFace, CUDA, Git, Linux
- Reproduction of a **CVPR 2023** study on OOD detection using few-shot prompt learning (**CLIP**).
- Adaptation of training from **ImageNet-1K** to **ImageNet-100**; achieved **AUROC score of 98.63** on Places.
- Implementation of mixed-precision training, templates, and context length adjustments; evaluation on Naturalist, SUN and Places.

FedAS: Personalized Federated Learning — *Python, PyTorch, NumPy, CIFAR-10/100,*   *2023*
CUDA, Git, Linux
- Convergence and robustness studies of the **FedAS** algorithm and comparisons with **FedAvg/FedProx**.
- Partitioning of **non-IID** data using **Dirichlet** distribution; fixing missing source code parameters.
- Outperforming baselines through **Beta** tuning and individualized fine-tuning strategies.

Chatrio — Real-time Anonymous Chat Platform — *React, TypeScript, Node.js, Express, Socket.IO, PWA, CSS*   *2022*

- ○ Complete full-stack message delivery with **WebSocket** using **Socket.IO** and Node.js backend.
- ○ Responsive frontend implementation with **React/TypeScript**, dark/light mode, branding.
- ○ Interest matching, typing indicators, image sharing (compression/limit), PWA for cross-device.

E-Commerce Website — *Java, MySQL, Node.js*   *2021*

- ○ Server-side programming and rendering with **Java; MySQL** database schema design for products, users, orders.
- ○ Authentication and authorization, sessions, persistent shopping cart.
- ○ Catalog, AJAX cart, multi-step checkout. Microservice with **Node.js** and **REST** to display live status.

TECHNICAL SKILLS

Programming Languages: C, C++, SQL, HTML, JavaScript, **Python**, Java.

Frameworks/Libraries: PyTorch, NumPy, TypeScript, **React**, **Node.js**, Express, Laravel, Socket.IO, HuggingFace Datasets, CLIP.

Databases: MySQL, MongoDB.

Technologies & Tools: Git, Linux/Shell scripting, Docker, CUDA, REST APIs, WebSockets, Mixed-Precision Training, PWA Development.

LANGUAGE SKILLS

	Listening	Reading	Speaking	Writing
English	B2	B1	B2	B2
German	A2	A2	A2	A2

*Note: Currently improving my German from **A2** to **B1/B2** through a course*