

# Kunjai Agrawal

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## Education

### University of California, Davis

Davis, CA, USA

Master of Science in Computer Science, GPA: **4.0/4.0**

Sept 2024 - Jun 2026

Coursework: Distributed Database Systems, Machine Learning and Discovery, Software Engineering

### Vishwakarma Institute of Technology, Pune

Pune, MH, India

Bachelor of Technology in Information Technology, CGPA: **9.23/10.0**

Jul 2020 - May 2024

Coursework: Data Structures, Artificial Intelligence, Databases, Web Technologies, Operating System

## Experience

### Software Engineer Intern

Jul 2023 – Dec 2023

HSBC Technology India | Vert.x, JUnit, Oracle, Grafana, GitHub, JIRA, React.js, Typescript

Pune, India

- Designed and implemented **REST APIs** using Java and Vert.x, **reducing system latency by 25%** through efficient **asynchronous processing** and optimized endpoints.
- Revamped the EzyOps's (HSBC's flagship application) website by developing end-to-end front-end components, leading to a **50% increase** in user adoption (tracked via logins and task completion metrics) within **one month**.
- Reduced **deployment time by 30%** through the development and optimization of **CI/CD** pipelines using **Jenkins**, thereby **increasing delivery speed** and **product release frequency**.
- Performed optimization and troubleshooting on 10,000+ records in Oracle, **enhancing query performance by 40%**.

### Research Assistant

Jan 2023 – Aug 2023

Vishwakarma Institute of Technology, Pune | Python, DBSCAN, Normalization

Pune, India

- Spearheaded the development of two novel clustering methods (weighted and unweighted) using Python with an **accuracy of 88%** outperforming the traditional methods.
- Implemented **data normalization** and **model optimization strategies**, resulting in a **25% increase** in **model convergence speed**, facilitating more timely and accurate results for **research applications**.

## Projects

### ExpRes: Decentralized Social Media Platform | [Link](#)

Oct 2024 - Dec 2024

Technology Stack : React.js, GraphQL, ResilientDB, FastAPI, Python

- Spearheaded the development of a blockchain-based social media platform using React.js, enhancing user interaction.
- Engineered **8+ secure APIs** using FastAPI and MongoDB, enabling core features such as message reporting, and real-time communication, ensuring a **99% uptime** and fault tolerance with ResilientDB
- Acknowledged as one of the best projects for its innovation and execution in the department.

### FeasibilityLens: AI-driven Agent for Research Feasibility Assessment | [Link](#)

Jan 2025 - Mar 2025

Technology Stack : FAISS, RAG

- Designed a **RAG-based pipeline** using **T5** and **FAISS** to embed and retrieve scientific literature for feasibility and novelty assessment across AI, LLMs, and OS domains.
- Automated the classification of 50+ research papers using **GPT-4** with rubric-based evaluation, streamlining technical review and insight extraction.

### AdaAct: Adaptive Weighted Activation Functions for Neural Networks | [Link](#)

Oct 2024 - Dec 2024

Technology Stack : Python

- Developed an adaptive activation function with data-driven weights, improving flexibility and generalization. Achieved a **5-18% accuracy boost** on CIFAR-10 and CIFAR-100, surpassing traditional functions
- Implemented regularization for sparsity to reduce overfitting, thereby reducing it by 12% and higher accuracy (achieving **98%** on CIFAR-10 and **92%** on CIFAR-100) using **ResNet18** and **Vision Transformer** models.

## Technical Skills

**Programming Languages and Databases:** Java, C, C++, R, Python, MySQL, Oracle, ResilientDB, MongoDB

**Full Stack:** Typescript, React.js, Bootstrap, HTML, CSS, JavaScript, PHP, REST API, GraphQL, Node.js, Figma

**Frameworks and Libraries:** JavaFX, JUnit, Vert.x, Apache Spark, TensorFlow, PyTorch, Keras, OpenCV, FastAPI

**Developer Tools:** JIRA, Confluence, Jenkins, GIT, Docker, MS Office, Power BI, Tableau, Grafana

**Methodologies:** Agile, Scrum, CI/CD, Test-Driven Development (TDD), SDLC

## Leadership and Achievements

- HSBC** : Mentored newly joined employees, assisting with system setup and project onboarding.
- LinkedIn Learning Ambassador, LinkedIn** : Selected as one of the top 5 students by LinkedIn. – [Link](#)
- Student Representative, Board of Studies**, Vishwakarma Institute of Technology, Pune – [Link](#)