ATHARVA CHANDAK

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WORK EXPERIENCE

WELLS FARGO   JUL 2023 – PRESENT
SWE | Java, JavaScript, Python, React, Spring, Jenkins, MySQL   *Bengaluru, India*
- Working as **Full-stack developer** building platforms processing **1M+** monthly transactions for 18k+ merchants serving PL Credit Cards & Loans.
- Developed backend **API micro-services** for POS EMIs increasing transaction throughput by **11%**, ensuring frictionless payments & processing.
- Prototyped a secure & scalable **LLM based chatbot for merchants** to help simplify UX and reducing loan application time by **30%**.
- Built a SaaS-based **customer insights portal** aggregating merchant data, boosting segmentation & targeting accuracy for data-driven decisions.

MILA / ROBOTICS AND EMBODIED AI LAB, UNIVERSITY OF MONTREAL   JAN 2023 – JUN 2023
Research Assistant | Python, Pytorch, Hugging Face   *Montreal, Canada*
- Researched **Continual Object Detection** in autonomous driving for my undergrad thesis, cutting catastrophic forgetting in OD by **73%**.
- Created on-device incremental OD methods for robotics demonstrating **mAP50 drop** of only **3.99** for transformer models vs CNNs' 14.84.
- Achieved a domain incremental **avg mAP50 of 68.63** and **avg mAP of 43.89** on the CLAD-D dataset marking **15% gain** over baselines.

WELLS FARGO   MAY 2022 – JUL 2022
SDE Intern | JavaScript, Python, React, Flask, MongoDB   *Hyderabad, India (Remote)*
- Designed and implemented an **AI-powered voice chatbot** for home lending, reducing query resolution time by **up to 68%**.
- Integrated **speech-to-text**(STT) and **TTS** APIs for voice interaction, and built an action server for NLP-driven processing & response curation.
- Composed the **NLP pipeline** for intent and entity extraction and achieved an **F1 scores** of **93.4%** and **83.5%**.

AIRLAB, CARNEGIE MELLON UNIVERSITY   AUG 2021 – DEC 2021
Intern | Python, Pytorch | **PAPER LINK**   *Pittsburgh, USA (Remote)*
- Conceived **the vision pipeline** for TartanAviation, generating **3.1M** high-resolution images across 550 terminal airspace sequences.
- Engineered calibration and **auto-labeling frameworks** for precise aircraft detection, producing **700k+** high-fidelity bounding box annotations.

EDUCATION

BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE PILANI (BITS PILANI)
Bachelor of Engineering in Computer Science
Coursework : Data Structures & Algorithms (DSA), Object Oriented Programming (OOP) design patterns, Database Systems, Computer Networks, Cloud Computing, Operating Systems, Probability & Statistics, Data Science, Deep Learning & Neural Networks

PUBLICATIONS AND PROJECTS

ADQUESTA: KNOWLEDGE-GUIDED VISUAL QUESTION ANSWER FRAMEWORK FOR ADVERTISEMENTS | **PAPER LINK**   WACV (FEB 2025)
- Proposed a novel VQA framework for advertisements achieving **pattern-matching** accuracy of **58.58%**, outperforming 10X larger models.
- Introduced **first** ad-specific **VQA dataset** featuring **94k+ QA pairs** & **17k images**, establishing a new benchmark for ad comprehension research.
- Integrated **RAG** and **LLaVA**-based implicit knowledge, leading to **2X increase** in QA accuracy compared to previous state-of-the-art approaches.

LIFTNET: ACTION RECOGNITION ACROSS VARIED LIGHTING ENVIRONMENTS   MAY 2022 – DEC 2022
- Architected LIFT-Net, a **dual-pathway transformer**, exceeding SOTA by **2.20%** (HMDB51) and **0.12%** (UCF101) for action recognition.
- Enhanced **illumination robustness** by efficient spatiotemporal modeling, achieving **95.21%** on ARID (**+1.14%**) and **2.65%** gain on InfAR.

DRONE FOR PARCEL DELIVERY   OCT 2021 – DEC 2021
- Optimized drone delivery and returns **increasing deliveries** by **23%** and **reducing errors** by **31%** within mission constraints.
- Executed control systems, path planning, and QR-based detection algorithms - boosting **UAV navigation accuracy** by **27%** over baselines.

TECHNICAL SKILLS

Programming Languages : Java, Python, JavaScript, TypeScript, HTML/CSS, Kotlin, C#, C++
Development Frameworks : Nodejs, NextJS, React, Redux, Spring, Flask, Django, .NET, JUnit, Mockito, Jest, REST API, Kafka, MySQL, MongoDB
Machine Learning Libraries : Pytorch, Hugging Face, LangChain, Numpy, pandas, OpenCV, scikit-learn, Tensorflow, Pytorch-lightning, FastAI
Tools/Technologies : Docker, Linux/Unix, AWS & Azure Cloud, Git, Agile, SDLC, Jenkins (CI/CD), ROS

LEADERSHIP / VOLUNTEERING

BITS-ACM Core Team Managed a software development hackathon (HackBITSPilani); Contributed and managed org's open source projects.
Senior Member, ShARE BITS Pilani Interned at Catalytic Corps, developing a framework to analyze and solve Indian MSME sector challenges.
Teaching Assistant Orchestrated ML/DL course assignments and conducted workshops on programming neural nets and foundational AI concepts.
NSS Volunteer Taught computer literacy and organized social impact events like blood donation camps, youth conferences, etc. in Pilani.

MAJOR ACHIEVEMENTS

Secured 3rd among 148 teams in AI RoboSoccer Competition; Trained a PPO-based RL agent maximizing goal scoring and passing accuracy.
Ranked 598 & 2449 out of 1.23 million students in JEE MAIN & JEE Advanced examination.
Top 5 among 472 teams, in E-Yantra Robotics innovation Competition hosted by IIT Bombay for simulated autonomous drone algorithms.