Yatharth Kapadia

(930) 333-4182 | yatharthkapadia2@gmail.com | linkedin | Twitter | Github

EDUCATION

Masters in Computer Science
Indiana University Bloomington

08/2023 – 05/2025 | Bloomington, USA

Bachelors in Electronics and Communication
MIT WPU

08/2019 – 05/2023 | Pune, India

TECHNICAL SKILLS

Python | C++ | GOLang | Pytorch | Tensorflow | Rest API | Docker | Kubernetes | AWS | GCP | NLP | Computer Vision | Neural Networks | Machine learning | MongoDB | SQL | Data Analytics | Data Visualization | Communication | Agile Methodology

PROFESSIONAL EXPERIENCE

Associate Data Science Intern | Skills : Data Visualization & Analytics and Software Design   07/2022 – 01/2023 | Pune
IDeaS 🔗
- Revamped the IBank platform with a **Python-based multithreaded visualization tool**, cutting computation times by up to 10%.
- Streamlined data analytics for global hotel companies by computing 10 complex graphs, enhancing efficiency and clarity in data interpretation.
- Automated repetitive tasks such as **Excel charting** and **macros**, saving over 500 hours of manual work and upgrading productivity.
- Galvanized a solid data validation system with **PowerBI, salesforce** and **Python**, running 8 essential tests to guarantee training-purpose data quality and applicability.

Software Development Intern | Skills: Machine learning, Algorithms and Creative Thinking.   05/2022 – 06/2022 | Mumbai
Quidich innovation labs 🔗
- Oversaw creation of a cutting-edge algorithm, predicting exact moment a cricketer releases the ball in an over by combining rule-based criteria with player movement trajectory and coordinates, achieving a **95%** accuracy rate.
- Reimagined an **object tracking system** in the **YoloV4**, assigning unique IDs and retaining memory for each detected object. The upgrade increased operator's situational awareness by 90%.

Software Engineer Intern | Skills: ML Research & MLOps, Software Design and Leadership.   09/2021 – 04/2022 | New York
Azodha 🔗
- Pioneered Open-Notif, an application acting as a full-scale solution for user-company connections. This internal SDK, available as a Command-Line Interface to Azoda, utilized **Pub/Sub**, **AWS Chalice**, **MongoDB**, and **Twilio**, achieving rapid processing within a 3-second timeframe.
- Redefined NLP framework for the Ringisho app, deploying models such as profanity detection with a 95% accuracy rate and phrase recommendation, all hosted as **FastAPI** endpoints on **GCP Compute Engine**.
- Catalyzed an advanced web-based KYC platform utilizing **WebAssembly, TensorflowJS** and **OpenCV**. User identity identification was done with **Top3 accuracy of 90%**, by processing data on client-side, enhancing security and efficiency.

AWARDS

1st prize at Smart India Hackathon   08/2022
- Led creation of a **no-code chatbot-building platform** at SIH hackathon, an initiative by **Dell and Indian Gov.**, with 44,000 teams participating.
- Revolutionized **chatbot narrative understanding** through advanced semantics training, integrating it with **AWS ECS** for streamlined deployment.
- Employed **Amazon S3** for storing conversational histories, facilitating a self-evolving feature to enhance chatbot interactions progressively.
- Showcased platform's prowess by crafting a cutting-edge healthcare chatbot, adeptly diagnosing potential health concerns from user symptoms. It also offers emergency contacts and locates nearby medical facilities using **Google's geographical services API**.

4th Rank in Nvidia and India Academia Connect AI Hackathon   10/2021
- Forged ahead in the Nvidia competition, crafting cutting-edge solutions to tackle COVID-19 social distancing requirements.
- Mastered software utilizing image warping and **YoloV3** for detecting distances between individuals from a bird's-eye perspective.
- Synthesized **heat maps** from developed video, charting crowd density trends to bolster sanitation protocols in bustling zones.

87th Rank in Amazon Ml challenge 🔗   08/2021
- Soared to an impressive 87th rank among more than 10,000 contenders in the Amazon ML Challenge, accurately categorizing products into utility groups based on descriptions, materials, and reviews, through use of **TF-IDF vectors**.

PROJECTS

PhishNet | Skills: Data Science, ML and Cyber Security
- Ushered a detailed **Exploratory Data Analysis** on website URL attributes to distinguish legitimate sites from phishing attempts by analyzing **23 key features**, strategically encoding critical attributes for accurate website classification.
- Championed and optimized a machine learning model by combining neural networks with **XGBoost** and **LGBM** for peak performance. Model excels in real-time phishing detection with an impressive accuracy rate of **96%**, showcasing synergy of multiple algorithms in cybersecurity.

Highway agent | Skills: RL Algorithms & Environments building 🔗
- Empowered an **actor-critic agent** with **reinforcement learning** for automated highway decision-making, using **Pytorch** and **OpenAI gym**.
- Penalized for accidents, the agent earned accolades for driving closely to other vehicles and maintaining optimal speeds.
- Orchestrated agent features like **modeling capabilities**, **memory functions**, and a **policy gradient framework** to better adapt to varying environments.

PixTOPix | Skills: Conditional GANs and Image Translation 🔗
- Envisioned a **Conditional GANs** framework with **PyTorch** and **googleMaps dataset** of **1,00,000 image**.
- Focused on translating images into a practical format, with a primary emphasis on converting satellite imagery into Google Maps-style visuals.

- Produced **87% accurate** and visually appealing maps, with potential applications in navigation and strategic planning.

Moon Crater reconstruction | Skills: GANs, Computer Vision, 3D-Reconstruction and Data Scrapping ⋔
- Captained a research project which utilized **unsup3d architecture** to deduce crater depths from a single image.
- Utilizing multiple **Generative Adversarial Networks**, the reconstructor analyzed shadows using a unique method specifically designed for studying celestial bodies with limited data. The model underwent training on a dataset of **100,000 moon images** obtained from **NASA.**

Sprechen | Skills: NLP, LLM, Transformers and Web Scrapping ⋔
- Enriched a **Transformer** model using **Pytorch** to serve as an **English to Hindi translator**.
- Propelled a learning regimen on over **180,000 lines** of manually scrapped English and Hindi text, culminating in **92% accuracy** on unseen data, while preserving original intent.

FaceInpainting | Skills: Computer Vision, Image Restoration and Algorithm Innovation ⋔
- Implemented **Partial Convolution architecture** with **PyTorch** for image restoration, incorporating a novel approach by leveraging **random walk algorithm** to generate 50,000 specialized binary masks, preventing overfitting.
- Attained an impressive **97% accuracy** in precisely reconstructing severely distorted facial features, with training on a dataset of **50,000** images from **CelebA** highlighting its potential for forensic applications.