Utkarsh Kumar Sahu

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EDUCATION

- **Indian Institute Of Technology (BHU)** — *Varanasi, India*
  Bachelor of Technology; CGPA: 8.17 — *Nov 2020 - June 2024*

SKILLS SUMMARY

- **Hard Skills** DSA, DL, Transformers/LLM's, OpenCV, Time Series, Langchain, RAG, Docker/Kubernetes, Django/FastAPI
- **Technicalities** C, C++, Python, SQL, JS, Matlab, Pinecone, OpenAI, OS, DBMS, CN, OOPS, System Design-LLD.
- **Tools** Jupyter Notebook, VS Code(IDE), Github, Tableau, MS Excel, MySQL, Canva, Figma, Postman, Minikube.
- **Soft Skills** Leadership, Teamwork, Time Management, Flexibility, Coaching/Mentoring, Motivated and Work Ethic.

EXPERIENCE

- **Data Scientist at Publicis Sapients** — *May 2023 – July 2023*
  - Developed **clustering** and mathematical **(Pulp)** models for optimizing facility locations in warehouse management.
  - Optimize the objective function, solve **inventory and route optimization** problems for the **delivery chain by 3.1%**
  - Deployed code using Docker and **increased efficiency by 2.1%,** used service pods on an AWS Kubernetes cluster.
  - **Exposure:** *Operation research, Business study, Mathematical models (Pulp), Kubernetes, Streamlit.* Link

- **Deep Learning Engineer at TMLC** — *Dec 2022 - Feb 2023*
  - Worked on detecting **YOLO models**, i.e. yolov5-v7-v8 models, **increased accuracy by 7.8%** using FPN networks.
  - Detected birds & calculated the **interval**, created dashboards on streamlit, **improved interference** speed by **80fps.**
  - Worked with **100+ CCTV footage** and deployed model on an **AWS EC2** instance to calculate the metrics.
  - **Exposure:** *Object-Detection-Segmentation, YOLO-v7/8, Tensorflow, AWS, Roboflow, Streamlit.* Link

- **Machine Learning Engineer at Univ.AI** — *Oct 2021 - Dec 2021*
  - Worked on **scraping** using **Octoparse** and generating a phone sales dataset with a **MAPE score 0.029.**
  - Implemented Statistical, LSTM, ARIMA and XGBoost model achieving an **accuracy rate of 97.31%**
  - Worked with the events team and organise the **ML hackathon for 250+ students** and administered leaderboard.
  - **Exposure:** *Time series, ARIMA, Web Scraping, XGBoost, Octoparse, Event Management.* Link

- **Artificial Intelligence Trainer at Scale AI** — *Feb 2024 - May 2024*
  - **Developing RLHF** (Reward Learning from Human Feedback) strategies to enhance the effectiveness of chatbots.
  - Implementing quality control practices to ensure **accurate chatbot responses**, improving the user experience.
  - Ensuring the **reliability of AI models** by maintaining high standards in task execution by promoting precision.
  - **Exposure:** *Large Language Models (LLM), Prompt Engineering, Parallel Algorithms*

PROJECTS

- **Medical-IntelliTalk AI-Conversational Agent** — *May 2024 - June 2024*
  - Developed an **advanced chatbot system** using Flask, Pinecone, **RAG**, and **Langchain**, integrated with **OpenAI**.
  - Enhanced with **SerpAPI** for real-time web search, ensuring comprehensive responses even to out-of-context questions.
  - Context interactions was managed through **chat memory retention** creating an intuitive and dynamic user experience
  - **Exposure:** *RAG, Langchain, OpenAI, SerpAPI, Flask, Pinecone, Conversational AI, Memory management.* Link

- **Memor.AI Ed-Tech Platform** — *Jan 2023 - March 2023*
  - Built an Ed-Tech platform for **active retention learning** using Flutter, Django, and Transformers. [Apk](Apk)
  - Developed spaced repetition, BERT-based generator, summarizer, similarity, extracting QnA model as **features**.
  - Deployed **Django** backend on **Heroku** to fetch API requests on our app, created a Deck of our solution. Deck
  - **Exposure:** *BERT, OpenAI, Django, RestAPI, Flutter, Heroku, UI/UX, Figma, Product management* Demo.

- **Synthetic Serendipity - Enigmatic Anime VAE-GAN** — *Sept 2022 - Oct 2022*
  - Leveraged Variational Autoencoder and **GANS** to generate unique **anime-style** character faces.
  - Utilized **PyTorch** to implement Deep Convolution GAN and trained on a diverse dataset of anime images.
  - Resulted in character portraits with potential gaming and digital art applications and deployed using **FastAPI**.
  - **Exposure:** *Variational Autoencoder (VAE), Generative Adversarial Network (GAN), FastAPI, Pytorch, Jinja.* Link

HONORS AND ACHIEVEMENTS

- **Auto Code Generator using GPT-3 Neo:** Demonstrated the working of Auto Code Generator using **GPT-3 Neo**, which generates code from snippets or commands. Built with the **transformer** model having **1.3 billion** parameters. Link
- **Multiverse of Languages — Intro to Python:** Delivered a 2.5-hour live Python tutorial covering 30 key topics, hosted by Google Developer Students Club [(GDSC).](GDSC) The video has over **3000+ views** on **YouTube**. Link

POSITION OF RESPONSIBILITY

- **Technical Events Head, COPS(IG)** — *Varanasi, India*
  Conducted various hackathons, workshops and events for freshers. — *June 2022 - June 2023*

- **Moderator, Cntrl Shift Intelligence** — *Varanasi, India*
  Organised and served as a mentor for a dynamic 3-day hackathon hosted on Kaggle. — *April 2022*

EXTRA-CURRICULAR ACTIVITIES

- Solved **400+** questions on the Interview Bit platform and **1500+** questions on various coding platforms. Profile
- **Verbal Mention** in the All India Political Party Meet **(AIPPM)** committee at IIT BHU MUN. Link