Rahul Purswani

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EDUCATION

University of Kansas — Lawrence, Kansas

Master of Science in Computer Science | **GPA: 3.84** — Expected Graduation: December 2024

Bachelor of Science in Computer Science | **GPA: 3.7** — May 2022

Relevant Coursework: Data Structures & Algorithms, Database Management Systems, Operating Systems, Data Mining, Computer Vision, Data Science, Information Retrieval, Machine Learning, Embedded ML

Awards: International Merit Award (highly selective merit-based award) | Zernickow Math Award | Multiple Honor Rolls

TECHNICAL SKILLS

- **Certifications:** AT&T Externship, Working towards AWS Cloud Practitioner and Meta Backend Developer.
- **Languages:** Proficient in Python, SQL. Intermediate in C++, JavaScript, HTML, CSS.
- **Web Technologies and Database:** React.js, Next.js, Node.js, Selenium, BeautifulSoup, MySQL. Cloud with AWS and GCP.
- **AI and Data Science:** PyTorch, TensorFlow, Keras, Matplotlib, Seaborn, Scikit-learn, OpenCV, NLTK.

EXPERIENCE

Software Engineering Intern, ZeroEyes Inc*.* — February 2024 – May 2024

- Built a comprehensive dataset of **over 1 million datapoints** using **Python** to support client's ML pipeline.
- Streamlined the data annotation process by developing a **Python** script with **OpenCV**, reducing annotation time **by 30%.**
- Utilized **APIs** to upload and manage datasets on **GCP** and internal tools, optimizing data handling.
- Researched diverse data augmentation techniques, improving model performance & balancing datasets within the pipeline.

Research and Development Intern, ZeroEyes Inc*.* — May 2023 – December 2023

- Implemented and fine-tuned ML models using **TensorFlow** to automate tasks in data annotation process, cutting annotation time **by 15%** and significantly reducing manual efforts by annotators.
- Engineered an image-to-text algorithm using **PyTorch**, enabling text-based image searches. Improved search speed for context specific image **by 60%** and improved overall user experience in retrieving relevant images.
- Processed over **100,000 images** and analyzed embeddings to derive valuable insights for the data corpus.

Graduate Teaching Assistant**,** KU Department of EECS — August 2022 – Present

- Senior Capstone: Organized and led weekly agile sprint meetings for 9 teams to discuss progress, address obstacles, and set achievable sprint goals. Assisted students with technical challenges and boosted overall team productivity.
- Compilers Construction: Facilitated interactive lab sessions for over 40 students. Explained topics from lexical analysis and parsing to code generation with hands-on examples. Evaluated and provided feedback on students' lab work.

PROJECTS

Car Damage Detection | TensorFlow, Keras, OpenCV, Python, PlatformIO — [GitHub]

- Finetuned and deployed the MobileNetV2 (SSD) model on ESP32S board to detect car damages in real time.
- Trained the model on the CarDD dataset (10,000+ images), achieving a testing accuracy of 75%. Performed post-training quantization using TFLite reducing the model size from 11MB to 4MB and deployed it with PlatformIO.

SoccerTact | StatsBomb API, MatPlotLib, SciKit, Node.js, JavaScript, Python — [GitHub]

- Led a team of 5 to build a Node.js app that provides detailed analysis of soccer matches to enhance tactical insights.
- Implemented an ETL pipeline to extract and store event data in Firebase. Developed Python scripts to create match-specific and player-specific visualizations like Event Timeline & Passing/Shots Networks and integrated these into the backend.

Skin Disease Classifier | OpenCV, PIL, PyTorch, Seaborn, Matplotlib, Python — [GitHub]

- Implemented CNN and finetuned state-of-the-art models on HAM10000 dataset, to classify skin diseases.