

GAURAV PRASAD

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Education

University of Waterloo, Canada

Sep 2023 – Dec 2024

Master of Engineering in Electrical & Computer Engineering(AI & ML)

GPA - 3.74/4.0

SRM Institute of Science & Technology, India

Jul 2018 – May 2022

Bachelor of Technology in Computer Science & Engineering

GPA - 9.56/10.0

Technical Skills

Languages: C, C++, Python, Golang, HTML, CSS, SQL, PySpark, GraphQL, Apache Airflow, Apache Nifi, Javascript

Platforms: VS Code, MacOS, Windows, Linux, GCP, Google Colab, GitHub, GitLab CI/CD, Docker, Kubernetes,

Microsoft Excel, Power BI

Technologies/Frameworks: OpenCV, Pytorch, TensorFlow, Data Pipelines, Pandas, AWS S3, AWS Lambda, Microsoft

Azure, Restful API, TCP/IP, Networking Protocols

Experience

Arista Networks

Jul 2022 – August 2023

Application Development Engineer

Bangalore, India

- Refined STA suite with high usability and quality, ensuring speedy deployments and 90% positive client feedback. Incorporated solutions that improved system efficiency, streamlining development processes.
- Designed backend features using Golang and GraphQL, enhancing system performance. Delivered applications that met critical deadlines and exceeded performance benchmarks, accelerating timelines.

LumiQ

Jan 2022 – Jun 2022

Data Engineer Intern(Co-op)

Noida, India

- Analyzed customer data and created Datamarts to enhance user experience in Fintech. Cleaned and structured large datasets, ensuring data integrity and reliability for downstream analysis and decision-making processes. Leveraged SQL and PySpark for data extraction, cleaning large datasets to ensure integrity.
- Utilized Power BI for visual analysis, transforming complex data into actionable insights for improved user experience in Fintech applications.

Samsung R&D Prism

Apr 2021 – Oct 2021

Machine Learning Research Intern(Co-op)

Chennai, India

- Built data models to enhance text readability for dyslexic users, increasing efficiency by 60%.
- Adopted ML algorithms to optimize text rotation and OCR precision, achieving measurable results. Identified future applications using ML in accessibility tech, proposing innovative research direction.

Projects

Pedestrian Detection using Faster R-CNN | *Python, TensorFlow, Computer Vision*

Feb – Apr 2024

- Designed a pedestrian detection model using Faster R-CNN on a pretrained ResNet50 to improve real-time detection accuracy in urban environments.
- Implemented advanced computer vision techniques to achieve high precision in pedestrian detection. Fine-tuned model parameters for optimal performance, achieving 92% accuracy.

Install Security Cameras at Traffic Intersections | *C++, Graph Algorithms, Optimization*

Oct – Dec 2023

- Engineered an algorithmic framework for optimizing security camera placement at traffic intersections, utilizing advanced graph theory concepts to ensure comprehensive coverage with minimal resource allocation up to 40% reduction.
- Utilized the layout editor to create a UI for the application in order to allow different scenes to interact with each other.

Get Me a House (E-Haus) | *JavaScript, HTML, CSS, Bootstrap, Heroku, Echo AR/VR*

Mar 2021

- Crafted a dynamic web platform to streamline housing and roommate connections for international students, integrating real-time matching algorithms and user-friendly interfaces to simplify relocation processes.
- Strategized a matching system tailored to user preferences, enhancing the speed of housing recommendations by 70%.

Publication

KPCA-CAM: Visual Explainability of Deep Computer Vision Models using Kernel PCA

Oct 2024

IEEE Multi Media Signal Processing

- Contributed to the development of KPCA-CAM, an explainability method for deep computer vision models. This research leverages Kernel PCA to enhance Class Activation Maps (CAMs), allowing for more accurate visualizations of the decision-making processes in Convolutional Neural Networks.
- Conducted experiments on large datasets and validated the model's accuracy in highlighting salient image features. Achieved 50% better results compared to previous CAM model's.