

ARUN KOTHARI

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SUMMARY

Computer Science graduate with internship experience in Machine Learning and Computer Vision, proficient in Data Structures and Algorithms, and beginner in web dev and DevOps, and open to relocate.

SKILLS

Computer Vision, CUDA, Data Analysis, Data Science, Data Structures & Algorithms, Django, Flask, Flutter, Git, Keras, Python, NLTK, Pytorch, Agile, Scrum, RestAPI, Natural Language Processing (NLP), Python, FastAPI, React.js, HTML/CSS, JavaScript, AWS, Docker, Jenkins, SQL, Jira, GraphQL, Kafka, Data analytics, Machine Learning, Nodejs

EDUCATION

Arizona State University

August 2023 - May 2025

Master's, Computer Science

GPA: 4.0

- Relevant Courses:** Studied Embedded Systems, Computer Security, and Perceptual Reasoning, gaining expertise in embedded system design, computer security techniques, assembly language, race conditions, buffer overflows, and perceptual reasoning in AI. Also have completed courses in Cloud Computing with AWS, where I learned about various AWS technologies and applied them in projects, and in Data Visualization with Python, where I visualized diverse data types, like geographical, sequence data, etc. Currently studying statistical machine learning, computational biology, and human-computer interaction to further expand my knowledge and skills in AI and data science.

Amity University

July 2019 - July 2023

Bachelor's, Computer Science

GPA: 3.36

- Relevant Courses:** Studied comprehensive coursework encompassing Data Structures and Algorithms, Python programming, and C/C++ languages, gaining proficiency in implementing fundamental data structures and algorithms in Python, C, and C++. Explored machine learning fundamentals, including regression, classification, clustering, and neural networks, applying these concepts through hands-on projects utilizing libraries like Scikit-learn and TensorFlow for predictive modeling and pattern recognition.

PROFESSIONAL EXPERIENCE

CROZIER Group

Tempe, AZ, USA

Research Aide

Dec 2023 - Present

- Collaborated with NYU students and PhD candidates to analyse oxygen atom movements during CeO2 reaction, **reducing manual work by 70%** using depth map technology. Employed **UNet for segmentation** and **weights and basis for tracking**.
- Led the development of an **interactive website** aimed at engaging high school students in atomic research and nano-particle studies, fostering curiosity and learning in emerging scientific fields. Leveraging **React.js** and **p5.js** for dynamic content and engaging user interfaces.
- Facilitated **weekly presentations**, sharing project progress and findings, fostering **open communication** and **collaboration among team members**.

Travvir

Noida, Uttar Pradesh, India

Machine Learning Intern

March 2023 - April 2023

- Tested and evaluated new models and research papers to ensure the company's technology remained at the forefront of innovation, resulting in a **20% increase in efficiency** through the implementation of updated technology solutions.
- Demonstrated adaptability by swiftly acquiring expertise in **point clouds and 3D reconstruction**, contributing to the development of new features and achieving a significant improvement in product performance.

PythonMate

Remote

Computer Vision Engineer Intern

October 2021 - January 2022

- Developed software utilizing face-moment recognition technology to detect unfair means during online tests, resulting in a substantial **25-30% improvement in test quality**. Leveraged expertise in facial recognition algorithms to enhance accuracy and reliability.

PROJECTS & OUTSIDE EXPERIENCE

White Noises - Responsive website to help you sleep, code, or just escape, Personal Project

[Live](#) | [GitHub](#)

- Developed a responsive website using **React** and **Tailwind CSS**, featuring video playback capabilities with upload and commenting functionalities. **Implemented multiple categories** of white noise to aid focus and productivity.
- Designed a **scalable** architecture and followed **Agile Methodology** with three backend services, utilizing **AWS SQS** for efficient inter-service communication and **AWS Lambda** to trigger **machine learning models** from **Hugging Face** for **sentiment analysis** on comments.
- Optimized video buffering using **FFmpeg** and **dynamic buffering techniques**, and integrated **AWS CloudFront** as a content delivery network to improve load times and reliability.
- Leveraged **MongoDB**, **Axios**, and **RestAPI** for database management, ensuring efficient data storage and retrieval.

Face Recognition System, Course Work

[GitHub](#)

- Designed and implemented a highly efficient face recognition system on **AWS**, leveraging **SQS**, **S3**, **Autoscaling**, and **E2**, alongside **Flask**, **Python**, and **NGINX**. Optimized system architecture to handle over **1000 requests in less than 5 seconds**, ensuring rapid and reliable processing of facial recognition tasks.

Rock Paper Scissors, Personal Project

[GitHub](#)

- Utilized **OpenCV2** and **VGG-19 transfer learning** for **gesture recognition** in a **real-time** Rock Paper Scissors game. Developed an **intelligent computer opponent** for an engaging user experience.

CERTIFICATIONS

- A-Z Deep Learning
- Responsive Web Design
- Computer Vision and Image Processing - Fundamentals and Applications
- Natural Language Processing
- A-Z Machine Learning
- GANs Specialization
- Zero to GANs
- 4 Stars SQL at HackerRank

PUBLICATIONS

- [Ensemble methods on NSL-KDD](#)
- [Human pose segmentation MADS](#)
- [An Efficient Deep Neural Framework for Nucleus](#)