Charvi Kusuma

kcharvi01@gmail.com +1-716-803-2646 Buffalo, NY linkedin.com/in/k-charvi/ Github Hacker Rank Leetcode

Eager to leverage skills and expertise as a Software Development Engineer Intern at Amazon, driving innovation and delivering high-impact solutions. Proficient in various programming languages and tools.

Education

University at Buffalo, The State University of New York Aug 2023 - Jan 2025
Masters in Computer Science; GPA: 3.91/4.0 (AI/ML Track)

Vellore Institute of Technology 2019 - 2023
Bachelor of Technology, CSE; GPA: 9.58/10.0 (Chancellor's Gold Medal - Best Outgoing Student)

Experience

Amazon Development Center Bangalore, India
DevOps Engineer Intern - Certificate *Jan 2023 - June 2023*

- **Amazon Pay Engineering Team:** Strengthened core development and operational excellence by rectifying 120+ integration test cases, ensuring CI/CD pipeline and substantially reducing 12 hours of manual efforts per week.
- Mitigated 20+ security risks like breach of confidential data, incident response plans and onboarded legacy material set onto AWS Secrets Manager working with S3, IAM, EC2 instances.
- Exhibited expertise in end-to-end deployments of data pipelines consumed by production software applications, a skill crucial for maintaining demand planning data infrastructure

JP Morgan Chase & Co. Hyderabad, India
Software Development Engineering Intern - Certificate *Summer 2022*

- **Consumer & Community Banking:** Incorporated 15 different data visualizations for all bank account opening service requests generated on OpenMainT JAVA application based on Spring Framework.
- Leveraging SoapUI web services, Apache ActiveMQ, and Prometheus metric data, I illustrated seamless proof of concept for migration from Splunk to Grafana dashboards, showcasing a 95% effective remodelling strategy.

Nanyang Technological Institute (NTU) Remote
Research Intern (Prof. Erik Cambria) - Certificate *Jan 2022 - June 2022*

- **SenticNet Computing:** India Connect@NTU Research Internship Programme 2022
- Conducted comprehensive research on "Immigration Reforms Sentiment and Error Analysis" utilizing the SenticNet API framework, analyzing 25K+ sentiment trends and identifying areas for API policy improvements.
- Enhanced the performance of 5 different SenticNet APIs, including concept parsing, polarity classification, and subject detection, by comparing against established tools such as Gensim, Vader, and TextBlob.

Skills

Programming: Python, Java, C/C++, JavaScript, HTML/CSS, SQL, R, Matlab, Dart, PHP, MySQL, SQLite, LaTeX
Tools: Git/GitHub, Docker Amazon Web Services, VS Code, IntelliJ, PyCharm, Atom, Android Studio
Frameworks: DJango, Hadoop, React, Node.js, Flask, Material-UI, Bootstrap, AngularJS, Streamlit, Flutter
Libraries: PyTorch, PySpark, Numpy, Pandas, Scikit-learn, TensorFlow, Keras, Spacy, Gensim, Word2Vec NLTK, Matplotlib
People Skills: Inquisitive nature to drive improvements, Collaborative Aptitude, Strong Communicative Abilities, Agility
Courses: Machine/Deep/Reinforcement Learning, Data Intensive Computing, Natural Language Processing, Computer Vision

Achievements

2023 Chancellor's Gold Medal: Honored as the Best Outgoing Student among 1500+ Graduating Students - Link
2022 Academic Exellence Award: Secured 2nd Rank among BTech CSE - Link
2021 Academic Achievement Award: Ranked 2nd among student in BTech CSE - Link

Publications

Automated Monitoring System for Healthier Aquaculture Farming | *ACCAI 2023* IEEE Link
Attention based Discrimination of Mycoplasma Pneumonia | *ICCIDE 2021* Springer Link
Journey of Letters to Vectors through Neural Networks | *ICDAM 2021* Springer Link
A Traffic Control System | *Patent 2023* Link
System And Method To Extract And Analyse Textual Features From An Image | *Patent 2023* Link
Snake Detector and Alerting Gadget for Rural India Using Yolo | *Patent 2022* Link
Python Based Motion Sensing Digital Writing Pad | *Patent 2021* Link

Projects

Integrating Spatio-Temporal and Textual Crime Analysis for Predictive Policing *Link*

End-to-End solution for Crime Dynamics in LA, Ongoing Research *Nov 2023 - Present*

- Applied 14 different ML classifiers, 7 clustering algorithms, Neural Networks and Latent Dirichlet Allocation for topic modeling.
- Presented an interactive web application version during CSE Demo Day 2023, selected from 70 different projects.

RxRovers: Roaming for Rapid Relief

Optimizing medicine delivery within hospital confines using Reinforcement Learning *Feb 2024 - Present*

- Multi-Agent optimized path planning with dynamic and static collision avoidance.
- Deep-Q Networks and Double DQN for training agents to navigate and make decisions in the stochastic environment.

Eyes on Eats: From Image to Formula

Dynamic Ingredient Recognition & Customized Recipe Generation System *Feb 2024 - Present*

- Employing qualitative methods to assess relevance and diversity of generated recipes.
- Optimizing NLP technique for personalized recipe generation, ensuring fluency with BLEU score.

Aquatic Surveillance: Innovative UAV Monitoring System for Dead Fish Detection

Acclaimed through a prestigious IEEE publication *Apr-Sept 2022*

- Deep Learning model customized for UAV surveillance, ensuring real-time dead fish detection with 90% accuracy.
- Trained and fine-tuned using Transfer Learning with 6 YOLOv5 architectures

Automatic Snake Detection System

University Funded Project *Aug-Sept 2021*

- Featuring engineering and integration with IoT devices, enhancing accuracy to 90% compared to traditional methods.
- Internet of Things, Object Detection, Deep Learning, YOLO, Computer Vision