Kavin Chandrasekaran

Email : kchandrasekaran@wpi.edu Mobile : +1-812-272-0033Shrewsbury, MA, USA

SUMMARY

Highly motivated Machine Learning Researcher and Data Scientist with 6+ years of experience in designing and implementing novel deep learning architectures. PhD candidate at Worcester Polytechnic Institute, specializing in activity recognition and NLP, with a strong publication record and expertise in processing complex datasets from wearable sensors, text, and databases. Seeking to leverage research experience and passion for innovation to contribute to cutting-edge machine learning initiatives.

SKILLS SUMMARY

- Programming Languages: Python, Java, SQL, HTML/CSS
- Deep Learning/Machine Learning: PyTorch, Scikit-Learn
- Generative AI: LlamaIndex, LangChain, LangGraph
- Deployment/Visualization: FastAPI, Gradio, Streamlit, Tableau
- Data Engineering/Databases: Hadoop, Spark, MongoDB, MySQL, PostgreSQL, DeepLake, Qdrant

EXPERIENCE

- **Research Assistant**
 - Worcester Polytechnic Institute
 - Pioneered a high-performance deep learning architecture using PyTorch, achieving 97% accuracy in recognizing and classifying ambulatory activities and transitions from smartphone sensor data, leading to more accurate patient mobility monitoring
 - Innovated a novel feature generation mechanism using NLP techniques, that improved complex human activity recognition by 6-23% in F1-scores, outperforming state-of-the-art and baseline models
 - Led a research project leveraging language models to enhance complex activity recognition performance, with the goal of enhancing patient monitoring, predicting ailments, and improving elder care.

Data Science Intern

Clean Crop Technologies

May 2022 - August 2022 Holyoke, MA

July 2013 - December 2015

Indianapolis, IN

- Architected an end-to-end data science framework that streamlined the adaptive design of experiments for sustainable food production research, minimizing manual input and accelerating research cycles.
- Implemented optimization models based on Gaussian processes to determine optimal in-lab experiment parameters, maximizing crop growth while preserving quality.
- Presented findings to senior management, resulting in adoption of new methodologies across research teams and reducing research cycle time.

Sr. Infrastructure Services Engineer

National Government Services

- Managed and monitored critical IT infrastructure, leveraging data analysis to optimize resource allocation, proactively identify performance bottlenecks, and ensure high availability.
- Developed and maintained monitoring dashboards and reports, utilizing data visualization tools to communicate key performance indicators.

EDUCATION

	PhD	\mathbf{in}	Data	Science	
•					

Worcester Polytechnic Institute

Masters in Security Informatics Indiana University

Selected Publications

- Chandrasekaran, Kavin, et al. "Cartman: Complex activity recognition using topic models for feature generation from wearable sensor data." 2021 IEEE International Conference on Smart Computing (SMARTCOMP). IEEE, 2021.
- Chandrasekaran, Kavin, et al. "Get up!: Assessing postural activity & transitions using bi-directional gated recurrent units (Bi-GRUs) on smartphone motion data." 2019 IEEE Healthcare Innovations and Point of Care Technologies, (HI-POCT). IEEE, 2019.

January 2016 - May 2025 (Expected) Worcester, MA August 2011 - May 2013 Bloomington, IN

May 2018 - December 2024

Worcester, MA

Google Scholar : https://bit.ly/35tJx2q Linkedin : https://bit.ly/3KZgm7N Website : https://bit.ly/3LxsMUx