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Kannan Sekar Annu Radha

Dedicated researcher with a robust interdisciplinary background in physics and computer science. Passionate about leveraging machine learning and artificial intelligence to address real-world challenges—especially in healthcare and intelligent systems.

Research Interests

Machine Learning, Deep Learning, Natural Language Processing, Artificial Intelligence, Computer Vision, and their applications to healthcare and intelligent systems.

Education

2024 – 2027 **BSc Physics**, *King's College London*, London, United Kingdom, *1st Class (predicted)*
- **Relevant Coursework:** Mathematics & Computation for Physics, Classical Physics, Modern Physics, Physics Skills & Techniques, Astrophysics.

2021 – 2023 **MEng Computer Science**, *University College London*, London, United Kingdom
- **Relevant Coursework:** Principles of Programming (C and Haskell), Theory of Computation, Object-Oriented Programming (Java), Algorithms, Mathematics for Computer Science, Discrete Mathematics, Engineering Challenges (Arduino and Python).

2019 **A Levels**, *Royal Grammar School Newcastle*, Newcastle, United Kingdom
- **A Levels:** A* Mathematics, A* Further Mathematics, A* Physics.
- **GCSE:** 7 A*s and 4 As (including Mathematics, Physics, Chemistry, Biology, Economics, English Literature, Spanish, Further Mathematics, English Language, History, Geography).

Research Experience

June 2025 **Computational Physics Research**, *King's College London*, London, United Kingdom
- Working on a computational physics project with Professor Samjid Mannan.

Nov 2019 **Data Science Intern**, *NHS Digital*, Leeds, United Kingdom
- Designed and implemented a Natural Language Processing model to predict ICD9 codes using Python.
- Employed Word2Vec for embedding generation, t-SNE for dimensionality reduction, and an LSTM neural network for prognostic predictions based on patient data.
- Contributed to advancing clinical informatics by exploring deep learning applications in healthcare.

Nov 2019 **Research Intern**, *Kennedy Institute of Rheumatology*, Oxford, United Kingdom
- Assisted in projects focusing on neural network architectures and TensorFlow implementations.
- Conducted experiments in image classification and digit recognition using standard datasets (e.g., MNIST).
- Developed an LSTM-based trading bot to explore algorithmic decision-making, demonstrating proficiency in time-series analysis.

Projects

NLP in Healthcare — Developed an end-to-end NLP pipeline using TensorFlow, Matplotlib, and Scikit-learn for predicting patient diagnoses from clinical data.

Cryptocurrency Trading App — Created an automated trading web application in Python with Flask, integrating deep learning models for market prediction.

YoteCoin — Engineered a cryptocurrency on the Ethereum smart chain, showcasing skills in blockchain technology.

iPong Game — Designed and developed an iPong game for Apple Watch using Swift and CoreML, emphasizing real-time machine learning integration.

DabCounter App	Built an innovative DabCounter app for Apple Watch with Swift and CoreMotion, focusing on interactive sensor data processing.
Robot Abstraction	Implemented modular robot control techniques in C, highlighting scalable robotics programming.
TetrisAI	Developed an AI agent in Python to play Tetris, emphasizing algorithmic problem-solving and reinforcement learning strategies.
AR Snapchat Lens	Created an Augmented Reality Snapchat Lens with over 2.5 million views and 100K downloads, integrating creative design with technical innovation.
Arduino Bioreactor	Programmed an Arduino-based Bioreactor using C and an ESP32 microcontroller to automate biological experiments.
GPComm	Developed a web app for patients to meet with General Practitioners.
Java CRUD	Created a servlet app that utilizes the CRUD system and model factory.

Technical Skills

Programming	Python, C, C++, Java, Haskell, Swift
Frameworks & Tools	TensorFlow, Flask, Matplotlib, Scikit-learn, Word2Vec, t-SNE, LSTM, Arduino, ESP32
Operating Systems	Windows, macOS, Linux
Other Tools	Microsoft Office, Photoshop, Final Cut Pro

Certificates & Awards

NMES	King's College London (Alessandro de Vita Computational Physics Prize 24/25)
CS50x	Harvard University Certificate (ID: 6e593e86fca2494b8b1c9af455a8d29d)
Machine Learning	Stanford University Certificate (ID: WZPCZKU8PJA9)
Deep Learning	DeepLearning.AI Certificate (ID: BDYCCTSVUHD3)

Languages

English	Native
Tamil	Native
Spanish	Full Professional Proficiency