

KANNAN SEKAR ANNU RADHA

kannansekara@gmail.com | [linkedin.com/in/kannan-sekar](https://www.linkedin.com/in/kannan-sekar) | github.com/kannansa | sakannan.com

SUMMARY

Software engineer and interdisciplinary researcher (Physics + CS) targeting SWE and SRE roles. Focus on scalable, performance-critical systems and applied ML. Strong fundamentals in algorithms, numerical methods, and probabilistic modelling. Experienced in building production software (mobile/cloud) and running large-scale compute pipelines on HPC clusters. Owner of end-to-end delivery: design, implementation, testing, and optimisation (latency, throughput, memory, cost).

EXPERIENCE

Galleries Medical Practice

Software Engineer

London, UK

Nov 2025 – Present

- Building iOS products and delivering production web/chatbot deployments (incl. globaltravelvaccinations.com) focused on reliable user journeys.
- Implemented end-to-end features (UI → backend → deployment); improved operational readiness via logging hooks.
- Collaborated with stakeholders to translate ambiguous requirements into shippable milestones with regression checks.

King's College London (Dept. of Physics)

Researcher (KURF Fellow / Research Fellow)

London, UK

May 2025 – Present

- Built physics-informed ML for carbon nanoclusters; improved accuracy by **80%** and reduced sim time by **60%**.
- Designed GPU workflow (TensorFlow + CUDA), reducing preprocessing latency by **3x** via engineered dataset ingestion.
- Ran large-scale **LAMMPS** simulations on HPC clusters; analysed 5,000+ structures using **OVITO**.
- Applied PCA/t-SNE for representation learning to identify outliers and compare predicted vs simulated distributions.

Kannan Industrials

iOS Developer / Founder

London, UK

Feb 2021 – Present

- Shipped multiple apps (*1minuteDOEShelp*, *iPong*, *DabCounter*, *OK Gym*); built production sites (sakannan.com).
- Integrated **CoreML** + signal-processing; improved real-time inference speed by **70%** on Apple Watch hardware.
- Reduced deployment cycle time by **50%** via CI/CD automation; maintained high velocity via modular architecture.

NHS Digital

Data Science Intern

Leeds, UK

Nov 2019 – Dec 2019

- Built clinical NLP system (Word2Vec + LSTM) to predict ICD-9 codes; improved accuracy **42% → 71%** via tuning.
- Developed t-SNE-based anomaly detection for rare diagnoses; supported reproducibility for handover.

Kennedy Institute of Rheumatology

Research Intern

Oxford, UK

Nov 2019

- Developed convolutional neural networks for biomedical imaging tasks (MNIST, CIFAR, histopathology), achieving **40% improvement** over baselines.
- Implemented reinforcement learning-based trading bot using LSTMs, improving predictive accuracy by **70%** and reducing training time by **30%** via mixed-precision GPU training.

Snap Inc.

AR Lens Developer

Gateshead, UK

Sep 2018 – Aug 2019

- Built viral AR lenses reaching **2.5M+ views** and **150K downloads**; optimised for mobile frame-time/memory.

SELECTED PROJECTS & LEADERSHIP

HPC Nanocluster Pipeline | C++, CUDA, Python, LAMMPS

- Parallel workflows + GPU ML analysis; automated dataset processing and visualisation for scientific iteration.

iPong & DabCounter | Swift, CoreML, Motion Sensors

- On-device RL agent (latency-aware) and motion classification pipeline with <50ms gesture recognition latency.

TetrisAI | Python, PyTorch, RL

- Deep RL agent achieving **95% win rate** vs heuristic baseline using reward shaping and policy optimisation.

Leadership (NRGS Societies) | Founder

- Founded CS and Theory societies; grew attendance to 50+ weekly; built iOS browser app for student use.

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Swift, Objective-C, Bash, Haskell

Machine Learning: TensorFlow, PyTorch, Scikit-learn, CoreML, Keras, NumPy, Pandas, Matplotlib

Systems & Cloud: CUDA/GPU Optimisation, HPC, Docker, Kubernetes, GCP, CI/CD, Git, Linux/Unix

Development: iOS (UIKit/SwiftUI), REST/GraphQL, Agile/Scrum, Technical Writing

EDUCATION

King's College London

BSc Physics (Alessandro de Vita Computational Physics Prize)

London, UK

2024 – 2027

University College London

MEng Computer Science

London, UK

2021 – 2023

Royal Grammar School, Newcastle

A Levels: A*A*A* (Maths, Further Maths, Physics)

Newcastle, UK

2017 – 2020