Kannan Sekar Annu Radha

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Technical Skills

Languages: Python, C++, C, Go, Java, Swift, SQL, Bash/Shell
Systems, Cloud & SRE: Linux/Unix, GCP, Docker, Kubernetes, CI/CD, Observability (SLIs/SLOs, Logging), Slurm/HPC, Git
Parallel Compute & ML: CUDA, Concurrency, PyTorch, TensorFlow, CoreML, Scikit-learn, NumPy, Pandas, LAMMPS

Experience

Galleries Medical Practice Nov 2025 – Present
Software Engineer *London, UK*

- Designed, deployed, and operated production clinical web services, idempotent REST APIs, and patient triage workflows (globaltravelvaccinations.com) on GCP and Linux, serving a 50,000+ patient base across North East healthcare workflows.
- Reduced mean time to detection (MTTD) during service incidents by instrumenting backend endpoints with structured JSON logging, latency and error-rate SLIs, and automated health-check alerting.
- Eliminated deployment-related downtime by introducing containerized staging environments, automated integration and regression test suites, and safe rollback workflows.

Kannan Industrials Ltd Jul 2025 – Present
Lead Software Engineer *London, UK*

- Increased real-time on-device CoreML inference throughput by 70% (35 to 60 FPS) across 4 production iOS applications (*1minuteDOEShelp, iPong, DabCounter, OK Gym*) by profiling thread contention, lock overhead, and heap allocations.
- Cut release lead time by 50% and eliminated manual deployment toil by building automated build, unit-test, and release CI/CD pipelines across web and mobile services (sakannan.com).

King's College London, Department of Physics May 2025 – Nov 2025
Undergraduate Research Fellow (KURF) *London, UK*

- Reduced molecular dynamics simulation runtime by 60% and interatomic energy prediction error (MAE) by 80% relative to empirical baselines by implementing physics-informed ML potentials in C++ and Python.
- Accelerated trajectory preprocessing and I/O throughput by 3x across multi-gigabyte structural datasets by engineering vectorized CUDA and TensorFlow data-ingestion pipelines.
- Eliminated manual cluster supervision across 5,000+ distributed LAMMPS jobs on Linux/Slurm HPC clusters by building automated batch scheduling, checkpoint recovery, and PCA/t-SNE outlier detection pipelines.

NHS Digital Nov 2019 – Dec 2019
Data Science Intern *Leeds, UK*

- Built a Python patient-diagnosis NLP pipeline combining Word2Vec embeddings, t-SNE dimensionality reduction, and a sequential LSTM over historical ICD-9 records to prognostically predict future diagnoses (42% to 71% top-1 accuracy).
- Owned the NLP project end-to-end across Agile sprints, participating in sprint planning ceremonies and presenting model evaluation findings and reproducible workflows to the engineering team.

University of Oxford, Kennedy Institute of Rheumatology Nov 2019
Machine Learning Research Intern *Oxford, UK*

- Implemented foundational neural networks and deep CNNs in TensorFlow while shadowing the Informatics Manager, benchmarking MNIST digit recognition before scaling to cellular image classification (+40% accuracy vs. linear baselines).
- Developed an LSTM time-series forecasting and cryptocurrency trading bot in Python and TensorFlow to evaluate sequential recurrent models on high-volatility market data.

Snap AR Ecosystem (Lens Studio) Sep 2018 – Aug 2019
Independent AR & Computer Vision Developer *Gateshead, UK*

- Engineered and shipped real-time mobile computer vision lenses reaching 2.5M+ views and 150K+ downloads, profiling GPU shader execution and memory footprints to sustain target frame rates on constrained mobile hardware.

Selected Projects

Low-Latency Sensor & Edge Inference Engine | *Swift, C++, CoreML, Concurrency* 2024

- Engineered a lock-free ring-buffer inertial sensor pipeline and on-device reinforcement learning inference loop achieving <50 ms p99 end-to-end gesture classification latency with zero main-thread frame drops.

Autonomous Heuristic-Search Tetris Engine | *Python, Search & Optimization, TCP Sockets* 2021

- Built an autonomous game agent evaluating all rotation-by-column placements on cloned board states via a 9-feature heuristic tuned with stochastic hill-climbing, alongside a socket-based client/server for head-to-head play.

Grid-World Robot Navigation & Simulation Engine | *C, GCC, Unix Pipes, Java* 2021

- Built a 2D grid-world robot abstraction in C (C-Robot-Abstraction) with obstacle and boundary collision detection, wall-following search routines, and polygon frame rendering streamed over Unix pipes to a Java graphics client.

Education

King's College London 2024 – 2027
BSc Physics — Alessandro de Vita Computational Physics Prize Winner *London, UK*

University College London (UCL) 2021 – 2023
Computer Science (Completed Year 1: Systems, Programming & Algorithms) *London, UK*

Royal Grammar School, Newcastle 2017 – 2020
*A-Levels: A*A*A* (Mathematics, Further Mathematics, Physics)* *Newcastle, UK*