

Sajaysurya Ganesh

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Experience

Zoe Limited

London, United Kingdom

LEAD MACHINE LEARNING ENGINEER - ZOE NUTRITION APP - zoe.com

Apr 2019 - Dec 2024

- Led the implementation of a highly scalable search and recommendation back-end infrastructure using [Vespa](#) to recommend shortform videos, recipes, podcasts, and blog posts to hundreds of thousands of active app users.
- Partnered with UX researchers, designers and product managers to develop multiple features for the flagship ZOE mobile app focussed on changing user behaviour and promoting healthy dietary habits.
- Fine-tuned LLMs in multi-GPU nodes with data parallel (DDP / FSDP / ZeRO Stage 2, 3) distributed training strategies and optimised LLMs with resource constrained fine-tuning using 4-bit Quantisation and (LoRA) Low Rank Adaptation.
- Trained reinforcement learning agents in [Ray](#) for highly context-aware meal recommendation and planning.
- Developed guardrailed chatbots with Retrieval Augmented Generation (RAG) to distill and explain ZOE's nutrition advice.

DATA SCIENTIST - ZOE NUTRITION APP - zoe.com

- Architected large-scale data pipelines in BigQuery using [dbt](#) to process customer data from diverse sources like wearables, blood tests and DNA sequencing and generated personalised reports for hundreds of thousands of customers.
- Developed and maintained the ZOE food-scores, which formed the foundation of ZOE's core product offering.
- Worked extensively with the marketing team on A/B testing, analysing performance across different channels (facebook ads, emails, organic etc.) and on segmenting users for personalized marketing.

DATA SCIENTIST - COVID SYMPTOM STUDY APP - health-study.zoe.com

- Key contributor to the Covid Symptom Study app, which went viral in 2020 with 4.5 million users reporting symptoms.
- Developed predictive models to track and analyze COVID-19 trends and collaborated with researchers from King's College London and Lund University on high-impact publications in [Nature Medicine \[2\]](#) and the [Lancet](#).
- Delivered critical daily insights directly to the UK Cabinet Office, DHSC, SPI-M and other government bodies.

The Alan Turing Institute

London, United Kingdom

OPEN SOURCE SOFTWARE DEVELOPER

Jan 2019 - Mar 2019

- Software architect in the founding team of "sktime": A machine learning toolbox for time-series data [[Github](#) - 8.2k stars]

Tata Technologies

Pune, Maharashtra, India

MECHANICAL DESIGN ENGINEER

Mar 2014 - Nov 2016

- Developed automation techniques for designing custom tools and fixtures for Rolls-Royce Trent series airplane engines.

Education

University College London

London, United Kingdom

M.SC. COMPUTATIONAL STATISTICS AND MACHINE LEARNING

Sep 2017 - Sep 2018

- Dean's list, Graduated top of the class with 2nd highest overall degree average (87%).
- Distinguished master's thesis on bayesian model-based reinforcement learning with variational inference [[thesis](#)][[repo](#)].

PSG College of Technology (Affiliated to Anna University Chennai)

Coimbatore, Tamil Nadu, India

B.E. PRODUCTION ENGINEERING

Jul 2008 - May 2013

- Best outgoing student with highest GPA (9.74/10). All-India Rank 25 in Graduate Aptitude test in (Prod.) Engineering.
- Mastered the fundamentals of mechanical engineering, robotics, manufacturing techniques and factory automation.

Skills

ML Eco System pytorch, 🚀 accelerate, deepspeed, vLLM, ray, jax, tensorflow, numpy, scikit-learn
Tech Stack Kubernetes, Pub/Sub, BigQuery, GCP, dbt, Vespa, FastAPI, SpringBoot

Programming Languages python, SQL, javascript, kotlin, C++, MATLAB, R

Selected Publications

- [1] NeurIPS - sktime: a unified interface for machine learning with time series [[link](#)]
- [2] nature - Real-time tracking of self-reported symptoms to predict potential COVID-19 [[link](#)]
- [3] nature - Human postprandial responses to food and potential for precision nutrition [[link](#)]