Christian Ryan

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SUMMARY

I am a Senior Machine Learning Engineer with 5+ years of experience designing and deploying scalable ML solutions that drive measurable business impact. My expertise spans computer vision, pricing optimization, and lifetime value prediction, with a strong technical foundation in Python, SQL, and Docker. Proficient in cloud platforms like AWS and GCP, I have led multiple end-to-end ML projects, generating significant revenue growth and operational efficiency. As the co-founder of SatoriML, I focus on building privacy-first AI solutions tailored to the unique needs of non-profits.

WORK EXPERIENCE

Senior Machine Learning Engineer @ Voi Technology   Jan 2022 - Present

Currently serving as an end-to-end Senior Machine Learning Engineer within R&D at Voi Technology, Europe's leading tendered micromobility operator.

- Computer vision-based automated parking quality review   *1 MEUR impact per annum*
  - Designed and productionised a computer vision-based ML model using TensorFlow to classify parking quality of vehicles in real time to reduce parking fines, manual USO reviews, and optimise fleet operations.
- Smart pricing   *2 MEUR impact per annum*
  - Utilised historical A/B tests to consolidate a dataset of user-level price sensitivity and built an uplift model using sklift to optimise pricing strategy.
- Predictive maintenance   *500 kEUR impact per annum*
  - Leveraged on-edge sensor data, customer feedback, and historical repair records to develop a predictive maintenance model. This model prioritized vehicle repairs, ensuring fleet safety and operational efficiency, while reducing downtime and improving customer satisfaction.

Machine Learning Engineer @ Capgemini   Jul 2021 - Jan 2022

As a consultant, I assisted in the development of a scalable ML platform for one of the world's largest pharmaceutical companies, streamlining their data science workflows with Kubeflow on AWS EKS. By integrating a GitLab CI/CD pipeline, we achieved a 20% reduction in deployment time and improved model scalability. Within three months, the platform hosted 20+ ML projects, enhancing team collaboration and accelerating time-to-insight

Data Scientist @ LeoVegas Group (MGM Resorts subsidiary)   Jan 2019 - Jul 2021

Work consisted of developing and maintaining a lifetime value prediction model alongside an algorithmic approach to customer relationship management. The former was used to optimize Google Ads campaigns, increasing the ROI of our performance marketing initiatives by 50%, whereas the latter leveraged the results of my M.Sc. dissertation (see Publications below for more details).

Entrepreneurial Venture

Co-Founder @ SatoriML   Jan 2023 - Present

Co-founded SatoriML to empower non-profits with custom RAG-based LLMs, tailored to their specific data needs with a focus on privacy and localization. We provide end-to-end AI solutions, from design to deployment, enabling non-profits to streamline operations and amplify outreach. Our tech stack includes LangChain, Pinecone, OpenAI, and AWS.

Education

'14 - '19   M.Sc. in Electrical Engineering at **KTH Royal Institute of Technology**   (GPA: 4.5/5.0)

2018   Study abroad programme at **Monash University** in Melbourne, Australia

2017   Erasmus exchange studies at **TU Wien** in Vienna, Austria

Technical skills

Skills: Python (Tensorflow, PyTorch, Xgboost, Scikit-learn, Sklift), SQL, Bash, dbt, Tableau.

Technologies: GCP (Vertex AI, GCS, Looker), AWS (S3, EKS, Lambda), Airflow, Docker, GitHub Actions, GitLab CI, Kubeflow, Kubernetes, BentoML, Snowflake.

Noteable Side Projects

Data Analyst as a Service

Developed and implemented a chatbot integrated into Slack at Voi, leveraging LLM advancements to democratize data access for non-technical colleagues. Trained a fine-tuned version of the davinci base model by OpenAI on prompt-completion pairs, enabling natural language prompts to generate JSON queries to our Metrics layer. This innovation significantly boosted the productivity of central analytics teams by offloading elementary data queries to the chatbot.

Experimentation tracking framework

Established an automated system for calculating statistical significance in A/B tests across UX, CRM, and product. This system included a central registry for tracking experiments and a dashboard for automated reports. It improved data accessibility for stakeholders, enabling them to derive insights without needing deep data analytics, and streamlined the experimentation process, enhancing productivity and decision-making.

Publications

Ryan, C. (2019). "On Optimization of Sequential Decision-Making in Customer Relationship Management using Deep Reinforcement Learning" (Dissertation). URL: http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-261711.

Nobliá, M., Ryan, C. (2017). "Contamination Event Detection in Water Distribution Systems" (Dissertation). pp. 11-19. URL: http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-214698.