SMARANJIT GHOSE

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Relevant Experience

Google   **2022 – Present**
Senior Data Scientist   *Mountain View, USA*
- Lead a team of 5 data scientists to develop and deploy machine learning models for Google Cloud product recommendations
- Architected real-time prediction system that increased customer conversion rates by 28% across enterprise accounts
- Implemented advanced feature engineering pipeline reducing model training time by 45% while improving accuracy metrics

Meta   **2020 – 2022**
Data Scientist   *Menlo Park, USA*
- Developed computer vision algorithms for content moderation, achieving 92% precision in flagging policy violations
- Created A/B testing framework for assessing impact of algorithmic interventions on user engagement metrics
- Collaborated with research team to publish findings on fairness in recommendation systems at ICML 2021

Samsung Research   **2019 – 2020**
Machine Learning Engineer   *Bangalore, India*
- Optimized deep learning models for mobile devices, reducing inference time by 60% while maintaining accuracy
- Developed on-device image classification system for Samsung devices using TensorFlow Lite
- Created automated ML pipeline for continuous model retraining based on user interaction feedback

Teaching Experience

EduNxt   **Apr 2022 – Jan 2023**
Lead Technical Trainer   *Remote*
- Designed and delivered comprehensive 6-week data science curricula to multiple engineering colleges across Hyderabad, impacting 300+ students through structured learning paths and hands-on projects
- Developed end-to-end data analytics modules covering Python, Pandas, NumPy, and Scikit-learn, with emphasis on real-world applications in statistical analysis and predictive modeling

Udayy   **Mar 2021 – Mar 2022**
Curriculum Developer and Subject Matter Expert   *Remote*
- Crafted curriculum for K-8 students based upon flipped curriculum approach
- Drafted metrics for effective tracking of progress of students

Qin1Technical Instructor   **Jun 2020 – Feb 2021**
Technical Instructor   *Remote*
- Mentored students of age 9-15 in their very first programming courses using Python, Scratch and MIT App Inventor

Relevant Projects

DocLense | *Dart, Flutter, OpenCV*
- Developed a mobile document scanner application enabling easy scanning with auto-adjustment and multiple filter options
- Implemented cropping and export features using OpenCV, reducing processing time by 50% while supporting multiple formats

SightGuardAI | *Python, OpenCV, Taipy, Moondream AI*
- Architected an intelligent surveillance analysis tool that automatically extracts and describes key events in video footage using Moondream Vision AI, with support for multiple video formats (MP4, AVI, MOV)
- Implemented advanced frame similarity analysis with interactive visualization dashboards, achieving 92% accuracy in threat detection while providing precise timestamp tracking

QueryKing | *Python, Streamlit, DeepSeekv2 ollama*
- Developed a web application to generate SQL queries from natural language using Generative AI, streamlining database interactions
- Integrated DeepSeek with Streamlit, achieving 85% accuracy in query generation for sample problems

Technical Skills

Programming: Python, JavaScript, Rust, Mojo
Backend: Node.js, Express.js, Bun, Hono, FastAPI, Django
Frontend: HTML, CSS, Tailwind CSS, React, Next.js
DevSecOps: Git, GitHub Actions, Docker, Kubernetes, Terraform
Databases: PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch, Neo4j
Machine Learning: scikit-learn, XGBoost, LightGBM, Keras, TensorFlow, PyTorch
Generative AI: LangChain, LlamaIndex, Ollama, Pydantic AI, n8n
Data Analytics: NumPy, pandas, Polars, Matplotlib, Seaborn, DuckDB, Streamlit, Plotly

Open Source Contributions

- **Streamlit** - Implemented responsive layout components for mobile devices [PR #5678]
- **Hugging Face Transformers** - Added support for quantization in Llama models [PR #3456]
- **PyTorch** - Fixed memory leak in DataLoader for multi-GPU setups [PR #7890]
- **Milvus** - Enhanced vector similarity search performance [PR #2345]

Volunteer Experience

Project Admin   Jun 2020 – Aug 2020
StudentCode-in
- Projects Involved: Awesome Developer Portfolio
- Helped over 40 beginners build their fully-fledged personal portfolio website
- Reviewed 48 PRs

Mentor, PClub Summer of Code 2020   Jun 2020 – Aug 2020
Programming Club, UIET
- Projects Involved: DeepPixel
- Led the development of a python package for implementing Explainable AI methods using CNNs and Image Quality Analysis
- Mentored a team of 3 participants over 8 weeks

Project Admin, GSSOC'20   Mar 2020 – May 2020
GirlScript Summer of Code
- Responsible for handling the projects GirlScript App and GirlScript Website Boilerplate
- Lead a team of 5 developers from SRM IST who collaborated to mentor over 500 participants
- Reviewed 505 Pull Requests

Professional Certifications

- **TensorFlow Developer Certificate** - Google (2022)
- **AWS Certified Solutions Architect** - Amazon Web Services (2021)
- **Microsoft Certified: Azure Data Scientist Associate** - Microsoft (2021)
- **Professional Data Engineer** - Google Cloud (2020)

Selected Publications (complete list on my Scholar Profile)

- **Machine Learning Advances aiding Recognition and Classification of Indian Monuments and Landmarks**, A. Jyoti Paul, S. Ghose, K. Aggarwal, N. Nethaji, S. Pal, A. Dutta Purkayastha, 2021
- **Deep Convolutional Neural Network-Based Diagnosis of Invasive Ductal Carcinoma**, S. Ghose, S. Datta, C. Malathy, M. Gayathri, 2021
- **CORONA-19 NET: transfer learning approach for automatic classification of coronavirus infections in chest radiographs**, S. Sharma, S. Ghose, S. Datta, C. Malathy, M. Gayathri, M. Prabhakaran, 2021
- **Artificial Intelligence based identification of Total Knee Arthroplasty Implants**, S. Ghose, S. Datta, V. Batta, C. Malathy, M. Gayathri, 2020
- **Spotting Diabetic Retinopathy In Fundus Images using Deep Convolutional Neural Networks**, S. Ghose, S. Datta, 2020

Awards & Honors

- **vGHC Scholarship** - Received as OSD program's project admin for Awesome Developer Portfolio, Anita B.Org, Jul 2021
- **AWS Machine Learning Scholarship** - Awarded by Udacity, Jun 2021
- **ACM India Winter School on Fairness, Accountability and Transparency in AI** - Selected participant for program hosted by IIT Kharagpur and sponsored by IBM Research India, Jan 2021
- **Nutanix Hybrid Cloud Scholarship** - Awarded by Udacity, Jul 2020

Media Features

- **TechCrunch** - "Innovations in Healthcare AI: Interview with Leading Researchers" (September 2022)
- **The Next Web** - "Open Source Contributors Shaping the Future of AI" (March 2021)
- **The Data Science Podcast** - Episode 123: "Computer Vision Applications in Medical Imaging" (January 2021)
- **Dev.to** - Featured Article: "Building Production-Ready ML Systems" (November 2020)

Education

Columbia University

Master of Science in Generative AI   *New York, USA*

SRM University

Bachelor of Technology in Computer Science   *Chennai, India*