SANSKAR SINGH

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SKILLS

Languages	Python, Java, C, SQL
Frameworks/Libraries	PyTorch, TensorFlow, NumPy, Pandas, ReactJS, NodeJS, Express, Bootstrap
Tools	Git, GitHub, Firebase, Android Studio, LaTeX, AWS (SageMaker, Lambda, Glue, S3), CUDA
Data Analysis	Scikit-Learn, Matplotlib, Seaborn

EDUCATION

University of Alberta   2022 – Present

Bachelor of Science in Computing Science   (Awarded international student scholarship)

- **Relevant Coursework:**
    - Reinforcement Learning
    - Search and Planning in AI
    - Machine Learning
    - Software Engineering
    - Algorithms
    - Data Science
    - File and Database Management
    - Digital Image Processing
    - Formal Systems and Logic
    - Linear Algebra II
    - Calculus III

EXPERIENCE

Research Internship, National University of Singapore   Jun 2024 – Jan 2025

Singapore (Remote)

- Led **Team CyberPhunks** in leveraging cutting-edge deep learning models for vehicle damage assessment, employing MA-Net and object detection techniques.
- Specialized in analyzing and preprocessing Big Data using regression, classification, and advanced deep learning models for multifaceted business applications.
- **Reduced false detections by 20%** through iterative model refinements and hyperparameter tuning.
- Collaborated with esteemed mentors **Dr. Tan Wee Kek** and **Dr. Manoranjan Dash** to gain hands-on expertise in advanced machine learning methodologies.

Summer Internship, Amazon Web Services (AWS)   Jun 2024

Singapore (On-site)

- Deployed machine learning models using **AWS SageMaker** under the mentorship of **Mr. Amol Puri**.
- Crafted Lambda and Step Functions, managed data storage on S3, and performed ETL operations using Glue.
- **Improved model deployment speed by 30%** through optimized pipeline configurations and resource scaling.
- Enhanced practical skills in AWS services, ML deployment, and scalable data processing.

PROJECTS

NUS Multimodal Sentiment Analysis Research (EDLFCN)

- Authored a research paper proposing the **Enhanced Disentangled-Language-Focused Collaborative Network (EDLFCN)** for multimodal sentiment analysis.

- Developed an innovative framework integrating textual, audio, and visual data, prioritizing language via dynamic modality gating, cross-modal consistency, and language-guided attention.
- **Achieved 85.06% sentiment prediction accuracy**, outperforming baseline models by 7%.
- **Reduced training time by 15%** using optimized data pipelines and GPU-accelerated computations.

Event Lottery System App

- Developed a robust Android application streamlining event registration via a **lottery-based waiting list**.
- Implemented QR Code scanning for quick event details, boosting user adoption by **25%**.
- Designed and integrated profile management features—such as deterministic profile picture generation—enhancing user personalization.
- Engineered **real-time notifications** for entrants and organizers, achieving **95% test coverage** through JUnit and test-driven development.
- Leveraged Firebase for dynamic data storage and multi-role support, reducing manual overhead by **40%**.

Library Management System

- Created a comprehensive command-line system in Python integrated with SQLite for efficient library data management.
- Implemented member profile management, including personal details, borrowing history, and outstanding penalties.
- Developed robust book search algorithms and a streamlined return process with penalty handling, **reducing query response times by 35%**.
- Designed a penalty payment system allowing partial or full penalty settlement and integrated a secure login flow for user authentication.
- Coordinated with team members via GitHub, achieving **90% unit test coverage** and consistent code quality.

EXTRA-CURRICULAR ACTIVITIES

- **ADAS Team Mentor**, University of Alberta
  Mentored undergraduate students by providing tailored academic support and study strategies, significantly enhancing student performance and confidence.