

# SIDDHARTH SINGH

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## EXPERIENCE

**Seatrium Pte. Ltd. (formerly. Keppel Digi) - Singapore**

**Senior AI and Digital Solution Developer – Full Time**

**Sep 2024 – Present**

- Constructed an end-to-end AWS pipeline using DMS, Glue, S3, SageMaker, MLFlow, and Lambda for periodic ETL, processing over a million records monthly for analysis, machine learning, and inference. Utilized Athena and Lake Formation for analytics, BI and data cataloging for bronze/silver/gold layer.
- Trained machine learning models (Isolation Forest, One-class SVM, XGBoost) on AWS SageMaker to detect real-time machinery anomalies with an F1 score of over 80%. AWS Lambda was used to trigger alerts to response action team, enabling quick response, minimizing downtime, and improving machinery health.
- Developed a generative AI RAG tool for production department, processing over 900 files to create AWS OpenSearch vectors. Integrated AWS Bedrock and Anthropic models to build agents, simplifying the search of large datasets.

**Solution Developer – Part Time**

**Feb 2023 – Jun 2024**

- Implemented hierarchical clustering and K-Means models integrated with Google Maps and Nearby API, to identify optimal pickup points for employees, reducing their walking time to under 10 minutes.
- Developed algorithms using Google OR-tools and Maps API to routinely optimize bus routes based on pickup points, leading to overall reduced travel duration thus contributing to company's environmental sustainability initiative.
- Built a generative AI RAG tool using Vertex AI and Gemini on Google Cloud Platform (GCP) to generate responses by retrieving references from internal company documents. This tool expedites processes for departments like HR and Legal by providing the answer and links to only relevant documents, reducing the time needed to find information.

**Keppel FELS Limited - Singapore, Keppel Offshore and Marine Engineering Mumbai Pvt. Ltd. - India**

**Solution Developer – Full Time**

**Mar 2020 – Dec 2022**

- Crafted dashboards to monitor fleet KPIs using ship data, including IoT sensors & logs from personnel onboard. This helped command center support the ongoing operations by providing real-time insights on health metrics and live activity.
- Developed a full-stack progressive web app (PWA) using the PERN stack (PostgreSQL, Express, React, Node) to view live ship status, log key operational information, access dashboards and manage files containing essential drawings, manuals and past reports. The app was designed to support offline access and cross-platform capabilities.
- Collaborated with multiple departments to build over 800 forms on Google AppSheet and proprietary software to digitalize processes, enhancing effectiveness, trackability, and streamlining the approval workflow.
- Mentored interns to effectively utilize available resources and design optimal solutions for ongoing digitalization initiative.

## EDUCATION

**Singapore Management University - Singapore**

**Jan 2023 – Jun 2024**

Master of IT in Business (Artificial Intelligence) – 3.46/4.00

**University of Wollongong, Singapore Institute of Management - Singapore**

**Jul 2017 – Dec 2019**

Bachelor of Computer Science (Digital System Security) – 3.37/4.00

- Dean's Merit Award 2017 – For achieving a WAM of 85 and above.

**PSB Academy - Singapore**

**Jul 2016 – Apr 2017**

Diploma in InfoComm Technology – 3.90/4.00

- Scholarship Award 2016 – PSB Academy Scholarship Test.

## ACADEMIC PROJECTS

**SMU Logo Detection**

**Jan 2024 – Apr 2024**

- Trained deep learning computer vision models like yolo to detect SMU logos in different angles and orientation.
- The project scored over 92% accuracy with the trained model on the testing dataset containing 10,000 novel images.

**Red Bear Racing Agent**

**Aug 2023 – Oct 2023**

- Trained reinforcement learning (RL) agent to win a race using explore-exploit to optimize tyre selection at every lap.
- Explored different RL techniques like epsilon-greedy, upper confidence bound (UCB), q-learning etc. for fastest lap time.

**Game Recommender**

**Apr 2023 – Jun 2023**

- Built a recommender system trained on images from Steam library to suggest games based on user's past choices.
- Leveraged Cornac libraries like EASE, VBPR and Milvus Vector Similarity to improve the quality of recommendations.

## SKILLS

**Programming Languages:** Python, R, Java, C++, C#

**ML/AI Tools:** TensorFlow, PyTorch, Keras, NumPy, Pandas, Scikit-Learn, Seaborn, Matplotlib, MLflow, XGBoost

**Visualization Tools:** Tableau, Power BI

**Database:** SQL, MongoDB, AWS DynamoDB, Firebase Firestore

**Web:** NextJS, ReactJS, NodeJS, JavaScript, HTML, CSS, Tailwind, Bootstrap, Material-UI, FastAPI, Flask

**Additional:** Git, Hugging Face, Streamlit, MLOps, Hyperparameter Tuning, Feature Engineering