SEOW ALEX

Software Engineer / Site Reliability Engineer

Singapore, Singapore

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WORK EXPERIENCE

Citadel **Singapore, Singapore**
Site Reliability Engineer Feb 2024 – Present
- Supported on-call for the Enterprise Data team, responding to critical production issues and ensuring maximum uptime for the reference data platform used firm-wide, using RHEL, Microsoft SQL Server, Kubernetes, Terraform, Ansible, Datadog and Splunk.
- Performed detailed analysis of legacy reference data systems in Java/C++/Python/Perl upon request to clarify legacy business logic and data ingestion behaviour.
- Created various data pipelines to ensure the completeness of reference data, involving thorough data analysis to verify the correctness and accuracy of data ingested.
- Played a key role in various disaster recovery exercises by ensuring the successful failover of important legacy infrastructure, focusing on improving the monitoring and automation of failover systems.
- Conducted in-depth performance testing on both current and legacy reference data platforms, performing detailed analysis to identify scenarios resulting in degraded performance, and proposing improvements to ensure the reliability of these platforms.

Site Reliability Engineering Intern May 2023 – Aug 2023
- Migrated a critical data pipeline that processes data used in day-to-day trading from a legacy system, reducing the pipeline duration by 40x – 90x.
- Deployed, maintained and documented a sandbox environment for an important internal system developed by the US team, greatly reducing developer friction for APAC SREs.

Computing for Voluntary Welfare Organisations **Singapore, Singapore**
Full Stack Web Developer May 2020 – Aug 2020
- Collaborated with 2 VWOs to enhance their personnel management systems using Ruby on Rails and React.
- Took charge of UI/UX design to ensure a good user experience, reviewed pull requests by teammates to maintain code quality and communicated with clients to understand their requirements.

Singapore Armed Forces **Singapore, Singapore**
Chemical, Biological, Radiological and Explosive Defence Group Team Leader Feb 2017 – Feb 2019
- Led a team of 3 to respond to chemical, biological and radiological (CBR) incidents in SAF camps.
- Ensured safety of key personnel during the 2018 North Korea-United States Singapore Summit.

The Commissioned **Singapore, Singapore**
Frontend Engineer Intern Feb 2015 – Apr 2015
- Worked remotely in collaboration with UI/UX engineers to improve the user interface for an affordable artwork commissioning platform.

RedMart **Singapore, Singapore**
Frontend Engineer Intern Nov 2014 – Jan 2015
- Upgraded the frontend JavaScript framework from Backbone.js to React.
- Added suggested products to search autocomplete and a new tile-based landing page to the main website.

EDUCATION

National University of Singapore **Singapore, Singapore**
Bachelor of Computing in Computer Science (Honours) & Bachelor of Science with Major Aug 2019 – Jan 2024
in Applied Mathematics
- **Honours:** 4.77 / 5.00 CAP, Dean's List, NUS Merit Scholarship
- **Focus Areas:** Parallel Computing, Programming Languages, Software Engineering
- **Final Year Project**: Deployment and Monitoring Framework for Distributed Systems

EXTRACURRICULAR ACTIVITIES

Bumblebee Autonomous Systems | **Singapore, Singapore**
Software Lead | Apr 2020 – Nov 2022

- Developed software to enable underwater localisation and navigation, as well as underwater simulations using Gazebo/ROS to compete in the Singapore Autonomous Underwater Vehicle Challenge 2020.
- Implemented LiDAR segmentation and integrated machine learning into the computer vision pipeline to improve object detection capabilities for the Virtual Ocean Robotics Challenge 2020.
- Directed a team of 8 undergraduates, in addition to refactoring the machine learning pipeline, overhauling the team website, and producing the technical report for RoboSub 2021.
- Directed a team of 4 undergraduates, as well as refactored the behaviour-tree based mission planner for RoboSub 2022.
- Directed a team of 8 undergraduates to take part in RobotX 2022.

HONOURS AND AWARDS

3rd Place in the Virtual Ocean Robotics Challenge 2020 | **Singapore, Singapore**
Issued by *Open Source Robotics Foundation* | Dec 2020

Highest Overall Score in RoboSub 2021 | **Singapore, Singapore**
Issued by *RoboNation* | Aug 2021

- 1st Place for the Website Design
- 2nd place for the Technical Design Report

1st Place in RoboSub 2022 | **Maryland, United States**
Issued by *RoboNation* | Aug 2022

- 1st place in the Autonomy Challenge
- 1st place for the Design Documentation

2nd Place in RobotX 2022 | **Sydney, Australia**
Issued by *RoboNation* | Nov 2022

- 2nd place in the Autonomy Challenge
- 1st place for the Design Documentation