Leonardo Irvin Pratama

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EDUCATION

Nanyang Technological University, Singapore   Aug 2019 – May 2023
- Bachelor of Engineering in Computer Science with Honours (Highest Distinction).
- Specialization: Data Science and Artificial Intelligence, Minor: Business
- Dean's List Recipient in Academic Year 2020/2021
- Relevant Modules: [1] Data Structures and Algorithms [2] Introduction to Databases [3] Operating Systems [4] Software Systems Analysis and Design [5] Data Analytics & Mining

National University of Singapore, Singapore   Jan 2021 – Jun 2021
- Participated in the Singapore Universities Student Exchange Programme (SUSEP).

WORK EXPERIENCE

Bytedance · Big Data Engineer Intern   May 2022 – Aug 2022
- Spearheaded data scope chatbot integration in Java and Golang to aid authorization troubleshooting process.
- Optimized download feature of analytical dashboard by introducing asynchronous flow with internal database as intermediate cache.

Autodesk · Software Developer – Database Automation Intern   Jan 2022 – May 2022
- Designed CloudOS pipeline architecture – incorporating AWS services – to deploy Recovery Time Objective tool for DynamoDB using Terraform.
- Incorporated Point-In-Time Recovery feature of DynamoDB to build Recovery Point Objective tool.
- Arranged department-wide welfare event for over 100 Platform Services and Emerging Technologies team members in Singapore, Philippines, and India.

Bonza · Data Engineer Intern   May 2021 – Aug 2021
- Orchestrated BigQuery data pipelines around the concept of direct acyclic graphs (DAGs) in Apache Airflow.
- Commenced Grafana alerting dashboard to monitor anomaly behaviour in AWS and Google Cloud services.
- Constructed Google Cloud Dataproc jobs using PySpark in the Hadoop File Distributed System environment.

Psion Insights · Software Engineer Intern   May 2020 – Aug 2020
- Developed the foundation of a risk management system platform utilizing MySQL, Express, React.js, and Node.js stack in a web development team of 4.
- Improved chatbot functionalities by creating intents using Amazon Lex.
- Initiated test coverage and documentation on APIs using Mocha.js and Swagger Editor.

ACADEMIC PROJECTS

Automated Tree Localization System using Street-Level Images: Final Year Project   Apr 2022 – Apr 2023
- Developed a street-level tree detection model with YOLOv7 architecture and Roboflow.
- Spearheaded a geometry-based tree localization system within areas in Singapore using QGIS and Numpy.

PINTU App: Indonesian NTU Students' Association, IT Committee   Oct 2021 – Oct 2022
- Designed database schema to allow school-wide online shopping feature in PostgreSQL using 3NF approach.
- Outlined and implemented CRUD operations along with REST architecture in Django.

Facial-Recognition-Based Attendance Taking System: Advanced Software Engineering   Aug 2021 – Oct 2021
- Created a touchless attendance taking system using facial recognition in TensorFlow, Django, React.js, and PostgreSQL. Deployed in Google Cloud Platform.
- Led a team of 7 in a scrum environment to maintain a scalable architecture of our scanner system.

Ground Movement Data-Driven Airport Graph Modification: Undergraduate Research   Aug 2020 – Jun 2021
- Implemented ingesting and analysis stages of air traffic control data streams using PostgreSQL.
- Spearheaded the algorithm development of an accurate automated network graph generator as a core predictive analytic support using Matlab for visualization, with researchers from SAAB-NTU Joint Lab.

Gamified Teaching Software: Software System Analysis and Design   Jan 2021 – Apr 2021
- Established and tested a gamified teaching software using PostgreSQL, Express, React.js, and Node.js stack.
- Led a team of 9 in an agile working environment to design a software architecture to cater all client's functional requirement needs. Responsible for database maintenance as well as tuning with Pgbench.
- Designed a relational database to provide efficient data fetching and storing from the front-end side.

Aviation Accident Database: Data Science Analysis   Feb 2020 – Apr 2020
- Analysed factors affecting aircraft accidents in United States over the past 20 years by classification.
- Harnessed Pandas and Numpy to process raw data and generated a clean data.
- Compared multiple neural network algorithms, such as TensorFlow, Scikit-learn, and XGBoost.

NTU Makan: Real-time Canteen Information System   Sep 2019 – Nov 2019
- Coordinated a real-time based application prototype to display available foods around NTU North Spine.
- Dispatched halal-based and price-based filter algorithm with Tkinter in Python.

Bus Crowd Prediction using Object Recognition   Oct 2019 – Oct 2019
- Developed a bus crowd prediction prototype by applying object recognition methods on bus footage to detect the number of people trend on a bus daily using Python.
- Implemented various libraries, such as OpenCV for image processing and YOLO for object detection.

CO-CURRICULAR ACTIVITIES

Indonesian NTU Students' Association (PINTU), Singapore · Sub Committee (Public Relations) Oct 2022 – Oct 2023
- Facilitated events with external partners for PINTU, including career workshops and YouTube segments.
- Guided incoming Indonesian freshmen at NTU, offering assitance with their transition to Singapore.

Indonesian NTU Students' Association (PINTU), Singapore · Sub Committee (IT)   Oct 2021 – Oct 2022
- Led a junior team of 5 to host a school-wide workshop in HTML and CSS.
- Co-designed backend architecture and database schema of PINTU App.

NTU School of Computer Science and Engineering · Main Committee (Academics)   Oct 2019 – Sep 2022
- Co-organised academic workshops and providing reliable Past Year Papers solutions.
- Provided technical support for any IT-related initiatives of NTU Computer Science and Engineering Club.

NTU Students' Union · Sub Committee (Welfare Initiatives Club)   Sep 2021 – Sep 2022
- Organized school-wide events for over 2000 undergraduate students in NTU to improve student welfare.

NTU Banyan Hall · Sub Committee (Residential Affairs)   Oct 2021 – Aug 2022
- Executed hall dinner and welfare pack distribution events for over 150 residents of NTU Banyan Hall.

NTU Students' Union · Sub Committee (External Communications)   Jan 2021 – Jun 2021
- Conceptualized publicity materials for multiple events of NTU Students' Union to accommodate public outreach of over 30,000 NTU students.

NTU CAC Choir · Main Committee (Publicity and Publications)   May 2020 – Jun 2021
- Led Publicity and Publications sub-committees on managing NTU CAC Choir's social media accounts – Facebook, Instagram, and YouTube.
- Responsible for public outreach by designing concert photoshoot and publicity materials.

Indonesian NTU Students' Association (PINTU), Singapore · Sub Committee (IT)   Jan 2020 – Sep 2020
- Developed PINTU website's front-end using ReactJS component features.
- Created social media content and conducted interviews for Humans of PINTU.

Welfare Services Club, Regular Service Project – Mental Health · Volunteer   Sep 2019 – Aug 2020
- Organising events for the Institute of Mental Health service users in a weekly 2-hours session basis.

SMAKONECUP Genesis 2018 · Main Committee   Feb 2018 – Oct 2018
- Directed an academic competition for Junior High School students in an annual school cup.
- Liaised with participating schools to ensure a clear communication regarding the event.

SKILLS

Languages: Bahasa Indonesia (Fluent), English (Fluent), Chinese (Basic)

Programming: C, C++, Python, SQL, Hadoop, Spark, Java, Golang, JavaScript, React.js, Node.js, Mocha.js

Other skills: Adobe Illustrator, Adobe Photoshop, Adobe Premiere Pro, Amazon Lex, Microsoft Office, Tableau