

Karthikeyan Shanmugam

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EDUCATION

NEW YORK UNIVERSITY (NYU)

Masters in Computer Science | Courant Institute of Mathematical Sciences

Sep 2022 - May 2024 (Expected) | Teaching Assistant for Math Finance Python Bootcamp

NATIONAL UNIVERSITY OF SINGAPORE (NUS)

Industrial and Systems Engineering | Bachelor of Engineering, Honours (Distinction)

University Scholars Programme (Multidisciplinary Academic Programme)

Aug 2013 - Dec 2017

STANFORD UNIVERSITY

NUS Overseas Colleges (NOC) Entrepreneurship Programme

Aug 2015 - July 2016 | Masters Courses in Management Science & Engineering and Entrepreneurship

WORK EXPERIENCE

J.P. MORGAN | Software Engineer (Associate)

Trade Surveillance | Jan 2020 - Jun 2022 | Singapore

- Enhanced core trade surveillance detection engines (Java & SQL) to flag non-compliant trading activities effectively
- Designed and developed a data enrichment pipeline (Python, Kafka & SQL) to improve detection processes

Infrastructure DevOps (Middleware) | Feb 2018 - Jan 2020 | Singapore

- Developed automation tools (Python & Ansible) to streamline middleware web operations minimizing manual work
- Developed a tracking tool (Python) to generate reports on the usage and effectiveness of automation tools

Summer Analyst | May 2017 - Jul 2017 | Singapore

- Built a real-time interactive dashboard using QlikView for infrastructure inventory management

PERCOLATA | Product Management & Operations Intern

Aug 2015 - Jul 2016 | Palo Alto, USA

- Drove the development of a scheduling solution by liaising with clients (US) and the engineering team (China)
- Automated operational processes - data monitoring, reports for clients etc. (Python, SQL & Tableau)
- Developed a standardised on-boarding process that improved operational efficiency by > 50%

CENTRE OF INNOVATION - SUPPLY CHAIN MANAGEMENT | Industrial Engineering Intern

May 2015 - Jul 2015 | Singapore

- Developed a web app (Python) to optimise SMEs' production planning & scheduling
- Worked on business model canvas and customer validation at a pre-accelerator programme

ACHIEVEMENTS, PROJECTS & ACTIVITIES

APPEASE - APPLE WATCH BASED SOLUTION FOR CHILDREN WITH ADHD | NYU | New York, 2023

Developed a WatchOS and iOS App (SwiftUI) to help children better manage their stress, anxiety and behavior.

Built a data storage pipeline (Python, Kafka & InfluxDB) to store crucial health data for improving stress detection models.

TEXT ANALYSIS OF RESOLUTION NOTES | J.P. Morgan - Trade Surveillance | Singapore, 2021-22

Used natural language processing techniques to identify key causes of false positive trade surveillance alerts.

LOGISTICS OPTIMIZATION - NTUC FAIRPRICE ONLINE (GROCERY) | NUS | Singapore, 2016-17

Optimised warehouse processes and product location assignment of national grocer using the Genetic Algorithm.

Reduced average order picking time by 26% and increased warehouse capability.

FACEBOOK TREND ANALYSIS | NUS | Singapore, 2017

Scraped Singaporean politicians' FB posts using FB Graph API. Analysed trends and visualised data using Tableau.

UDACITY MACHINE LEARNING COURSE FINAL PROJECT | Singapore, 2017

Used machine learning algorithms and techniques to build an optimised classifier for the Enron Email Dataset.

WAR AGAINST DIABETES DESIGNATHON | Health Promotion Board | Singapore, 2017 | 1st Prize

HARVARD CONFERENCE (HPAIR) | Japan, 2014 | Entrepreneurship Panel, Singapore Delegate

SKILLS

Significant Exposure: Python • SQL • Unix • Pandas • Numpy • Matlab • Tableau • Agile/Scrum • Design Thinking

Some Exposure: Java • C++ • C • SwiftUI • Kafka • Scikit-Learn • HTML & CSS • Ansible • QlikView • Product Strategy