Karthikeyan Shanmugam

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EDUCATION

NEW YORK UNIVERSITY (NYU)

Masters in Computer Science | Courant Institute of Mathematical Sciences
Sept 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

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 built data pipeline (Python, Kafka & SQL) to enrich trade data, improving detection processes

Infrastructure DevOps (Middleware) | Feb 2018 – Jan 2020 | Singapore
- Automated middleware web operations (Python & Ansible) minimizing manual work by > 30%
- Built app (Python) to generate usage reports of automation tools to aid management in strategic decisions

Summer Analyst | May 2017 – Jul 2017 | Singapore
- Built real-time interactive dashboard (QlikView) for the APAC storage team to manage its inventory utilization

PERCOLATA | Product Management Intern

Aug 2015 – Jul 2016 | Palo Alto, USA
- Drove development of scheduling solution by liaising with > 3 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

PROJECTS

APPEASE - APPLE WATCH BASED SOLUTION FOR CHILDREN WITH ADHD | NYU | New York, 2023
- Developed WatchOS and iOS App (SwiftUI) to help children better manage their stress, anxiety and behavior
- Built data storage pipeline (Python, Kafka & InfluxDB) to store health data for improving stress detection ML models

OPERATING SYSTEM LAB PROJECT | NYU | New York, 2023
- Developed simplified shell (C) that supports basic commands, input/output redirection, pipes and suspended jobs
- Developed a multithreaded run length encoder for compression (C) and a file recovery tool (C) for FAT32 file system

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.

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