Anish Philip

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PROFESSIONAL EXPERIENCE

Graduate Research Assistant May 2024 – present | Stony brook, United States
Secure Systems Lab (SBU)

- Developed an **NSF-funded** full-stack framework based on **Linux/UNIX based security measures ,C++, React, Redux, TypeScript** & **Webpack** for reinventing web apps using **privacy policies**.
- Spearheaded the design and implementation of an **RBAC** based no-code UX framework for enforcement of data access policies.
- Built a **real-time cell-level spreadsheet** module for tabular data, similar to Google Sheets, with integrated CI/CD pipelines using Github actions.

Chief Engineer | Lead Engineer | Engineer Jul 2017 – Aug 2023 | Delhi, India
Samsung

- Awarded **Employee of the Year** out of 3,000+ employees at Samsung in 2019 for exceptional performance and innovation in cloud security.
- *Identity and Access Management:* Accelerated access to **1,500+ cloud resources** with 1-click single sign-on, supporting 50+ Samsung Cloud services through a patent-backed RBAC platform developed with **Golang, Python, Angular, Ansible,** and **REST** and **SOAP** APIs (100+ APIs).
- Achieved **99.9% SLA-driven availability** for multi-cloud (**AWS, Azure, GCP**) access by building a global-scale, zero-trust system architecture with microservices, FastAPI, ELK stack, Terraform, and Kubernetes.
- *Security Operations Hub:* Boosted infrastructure **resilience by 40% and scalability by 70%,** integrating advanced threat mitigation in firewall and package management using Python FastAPI, Ansible, and Kafka.
- Reduced manual remediation by **95%** through automated, real-time patching based on critical CVEs using **Ansible and OpenVAS**, applying targeted fixes across 1,500+ resources **cutting exposure by 60%.**
- Enhanced **infrastructure response** times by up to **300%** by shifting to a serverless architecture with **automated provisioning** and governance.
- *Email Response Management System* **:** Reduced **customer support response time to 1 day** by developing a real-time Email Response Management System using **Java, Spring,** Hibernate, VueJS, and Golang.
- Boosted **team efficiency by 80%** in customer support with an advanced notification and issue-tracking system for tickets.

EDUCATION

Stony Brook University Aug 2023 – Dec 2024 | NY, USA
MS Computer Science (with specialization in Data Science)

- Machine Learning, Distributed Systems, Analysis of Algorithms, Network Security, Data Science (Skiena) **GPA 3.84/4**

Delhi Technological University (Formerly DCE) Aug 2013 – May 2017 | Delhi, India
B. Tech in Software Engineering

- Operating System, Database Management System, Object Oriented Programming, Computer Network **GPA 9.1/10** (**Top 3%**)

PROJECTS

CS Workflow (SBU | COMPAS LABS) Jan 2024 – present
React | Node.js | GCP | Firebase | Bitbucket | Docker | Postal

- Digitized **80%** of department **workflows** to streamline processes and boost operational efficiency through a collaborative web application, reducing reliance on manual tasks.
- Ensured **99.9% system availability and scalability** by leveraging Google Cloud Platform (GCP) for hosting and Firebase for backend services, supporting high demand and reliable performance
- Supported **over 1,000 students and faculty** by implementing real-time integrations with Adobe PDF APIs as well as Google Meet, and Sheets.
- Deployed **Docker based CI/CD pipelines** for automated testing and deployment to improve response times and user satisfaction.

Kaggle Aug 2023 – Dec 2023
Python | Pandas | Regression models | NLTK

- Optiver - Trading at the Close
  - Improved data **processing speed by 50%** using parallel processing and broadcasting techniques for large datasets.
  - Developed a unique method for calculating the sorted correlation matrix, enabling efficient clustering and analysis of stocks.
  - Evaluated multiple models, achieving the best prediction accuracy with Random Forest Regression for stock price prediction tasks.
- CommonLit - Evaluate Student Summaries
  - Implemented NLP techniques with NLTK for feature extraction, improving text-based data analysis **efficiency by 40%.**
  - Identified key features such as bad words, tokens, stop words, grammar corrections, and measured text similarity and readability.
  - Evaluated multiple regression models, achieving the best accuracy with Gradient Boost Regression for essay evaluation

Privacy Policy Analysis of Medical App data Aug 2024 – present
Python | Pandas | PyTorch | NLP

- **Increased transparency for 10,000+ health apps** by simplifying privacy policies, enabling users to better understand data practices and potential privacy risks.
- **Flagged potential privacy law violations** through advanced NLP techniques (Priv-BERT, sentence modeling) to analyze app permissions, consent forms, and data collection practices for compliance.
- **Enhanced user control and regulatory adherence** by evaluating data granularity and aligning app practices with legal standards, providing actionable insights for improved privacy compliance.

Machine Learning and Data Science (SBU) Aug 2023 – present
Python | Pandas | PyTorch

- **Privacy Policy Analysis of Medical App data**
  - Increased **data transparency for 10,000+ health apps** by breaking down complex privacy policies, empowering 90% of users to better understand data usage and privacy risks.
- Flagged **1,000+** potential privacy law violation concerns by applying **TF-IDF, sentence-transformers , and Legal-BERT** to analyze app permissions, consent forms, and data collection practices for regulatory compliance.
- Boosted regulatory alignment and user control **by 80%** by assessing data granularity and mapping app practices to legal standards.

- **Financial Trading System (FTS) using Reinforcement Learning** :
  - Conducted a comprehensive analysis comparing state-of-the-art RL algorithms (Temporal Q-learning, LSTM, K-Line Clustering) to optimize profits, model parameters, and system efficiency, with **40% increase in revenue.**
  - Implemented **automated model evaluation pipelines**, ensuring consistent and accurate results using **zenML and MLflow**.

Data Analytics with OLAP Cubes (DTU) Aug 2016 – May 2017

JAVA | R | OLAP | Python

- Demonstrated an R & Java based application for analyzing multidimensional datasets of **20GB+** size using OLAP cubes.
- Analyzed real-time datasets using **star schemas** and Cubing Algorithms and came up with our own algorithm to build sparse data cubes faster, using **HDF5** formats.

TECHNICAL SKILLS

- **Languages:** Golang, Python, JavaScript, TypeScript, Java, C/C++, Bash, SQL, R, HTML/CSS
- **Technologies:** Node.js, NextJS, Spring Boot, Angular, React, NestJS, GraphQL, REST, Kafka, OAuth, SAML, LDAP, Active Directory
- **DevOps & Cloud:** AWS, Azure (**Certified**), GCP, Kubernetes, Docker, Git, CI/CD, Jenkins, Azure AD, Hashicorp Vault, Terraform, Ansible
- **Databases:** MySQL, Postgres, MongoDB, DynamoDB, Amazon Redshift, Amazon RDS, Hadoop, Redis, Firebase

ACHIEVEMENTS

- Ascended through the ranks becoming **President- Computer Society of India (DTU)**, after roles such as Infrastructure Head, PR Head, Technical & Corporate Head and Joint Secretary over four years.
- Secured **All India Rank 1536** out of **1.5 million** candidates in Joint Entrance Examinations in India.