Anish Philip

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PROFESSIONAL EXPERIENCE

Graduate Research Assistant May 2024 – present | New York, USA
Secure Systems Lab (SBU)
- Developed a **full-stack privacy framework** for NSF-funded research, modernizing web applications with enforceable privacy policies by leveraging **Linux/UNIX security protocols, C++, React, Redux, and TypeScript**.
- Designed and implemented a **RBAC based no-code UX framework**, streamlining data access policy enforcement.
- **Built a Google Sheets-like real-time module** for structured data management, integrated with CI/CD pipelines using GitHub Actions.

Full Stack Software Engineer Jan 2024 – Dec 2024 | New York, USA
Compas Labs (SBU)
- Digitized **80% of** CS department workflows, ensuring **99.9% availability** by developing a role-based system with **React, Node.js, and GCP**.
- **Cut workflow turnaround from 3+ days to 1 day** by automating document signing and reminders using Adobe PDF and Google APIs.
- Streamlined **student and faculty management for 1,000+ users annually** by automating enrollment and approvals with **GCP App Scripts, Postal, Docker,** and CI/CD for continuous deployment.

Chief Engineer | Lead Engineer | Engineer Jul 2017 – Aug 2023 | Delhi, India
Samsung
- Awarded **"Employee of the Year" recognition** among 3,000+ employees at Samsung for delivering impactful cloud security solutions.
- **Enhanced user productivity by 1-click SSO solution**, improving access to 1,500+ cloud resources, streamlining the **IAM** process.
  - **Engineered a secure and scalable RBAC platform**, by writing 100+ REST and SOAP APIs using Golang, Python, and Angular.
  - **Ensured 99.9% multi-cloud availability** by architecting a zero-trust framework across AWS, Azure, and GCP, utilizing microservices, FastAPI, ELK stack, Ansible, and Kubernetes.
  - **Automated security processes**, strengthening infrastructure governance with Terraform, Kafka, and Ansible.
- **Boosted resilience by 40%** and **increased scalability by 70%** by streamlining firewall and package management, reducing exposure by 60%.
  - **Reduced manual effort by 95%** by implementing **real-time CVE patching** with OpenVAS and Ansible, for rapid and targeted fixes.
  - Improved **system security by 40%** by developing an intrusion detection system based on RDS and server access logs, firewall and user permissions.
  - Achieved **300% faster incident resolution** by transitioning to a serverless architecture with cost-efficient provisioning and autoscaling.
- **Revamped customer support workflows** by developing a smart work allocation and ticketing platform, leveraging **Java, Spring, Hibernate and Golang.**
  - Elevated customer support **efficiency by 80% by** integrating **AI-driven autocomplete and templates with Scikit-learn** and **TensorFlow.**
  - Minimised ticket **resolution time to 1 day** by automating task distribution based on attendance and using AI for **tag-based email classification**.

EDUCATION

Stony Brook University Aug 2023 – May 2025 | New York, 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

Fault-tolerant Distributed Transaction System Aug 2024 – Dec 2024
Golang | gRPC | Paxos | RAFT | PBFT | Protocol Buffers
- **Achieved 99.9% durability and availability** for transaction processing, with response times **under 500 ms,** by implementing a fault-tolerant distributed banking transaction system using gRPC and Badger.
- **Engineered a scalable key-value store** supporting seamless CRUD operations across 20+ replicas, utilizing a modified RAFT based consensus.
- **Implemented advanced protocols** (Multi-Paxos, optimized RAFT, PBFT with Optimistic Phase reduction) to ensure robust consensus in asynchronous environments with heartbeat checks, leader election, log replication and persistence, checkpointing and threshold signature.

Machine Learning and Data Science (SBU) Aug 2023 – Dec 2024
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 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** :
  - **Optimized profits and system efficiency**, achieving a **40% revenue increase** by comparing state-of-the-art RL algorithms (Temporal Q-learning, LSTM, K-Line Clustering).
  - Ensured **consistent and accurate model evaluation**, streamlining processes with **zenML and MLflow**.

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