Ali PiyarAli

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PROFILE

Software Engineer | CPA | Master's in Software Engineering | 15+ Years in Finance & Data Science
Finance leader turned software engineer. Skilled in Python, BI tools, ML, and cloud technologies to drive scalable solutions and strategic growth. Experienced in test automation and system integration, and large-scale data processing. Passionate about innovation at the intersection of finance and technology.

EDUCATION

Master of Liberal Arts in Software Engineering | Harvard University, *Harvard Extension School* | 2020 - 2023

Bachelor of Commerce | York University | 2013

SKILLS

- **Languages & Frameworks**: Python, Django, pytest, unittest, Scala, JavaScript, SQL, C++, GraphQL, React, FastAPI
- **Database, Big Data & Streaming, BI & Automation**: PostgreSQL, MySQL, MongoDB, Redis, Neo4j, Amazon RDS, AWS Timestream, Cassandra, Spark, Kafka, Flink, Hadoop, Airflow, Power BI, Kibana, Elasticsearch, Selenium
- **Data Science, Analytics, Cloud & DevOps**: Pandas, NumPy, TensorFlow, PyTorch, Keras, AWS, Docker, Git, CI/CD

PROJECTS

Financial Big Data Analytics (2025) *(Tech Stack: Scala, Python, Spark, Kafka, Elasticsearch, and Kibana)*

- Built a financial data pipeline to process and analyze large-scale datasets from the SEC EDGAR database.
- Designed visualizations in Kibana and Elasticsearch to highlight key financial ratios and trends.

Generative Adversarial Networks for Image Generation (2024) *(Tech Stack: Python and TensorFlow)*

- Built DCGAN & WGAN models to generate high-quality fashion images.

Speech Synthesis and NLP (2024) *(Tech Stack: Python and TensorFlow)*

- Developed text-to-speech and NLP answer generation, optimizing performance with hyperparameter tuning.

Drug Safety Knowledge Graph – (Harvard & Pfizer Collaboration) (2023)

(Tech Stack: Python, Django, Next.js, Neo4J, GraphQL, and SQLite)

- Developed a full-stack knowledge graph application linking drugs, genes, and adverse effects relationship (124K nodes and 68M relationships). Developed a Jaccard similarity score to show entity relationships visually.
- Reduced data processing time by 90% using optimized pipelines.

  Presented the app with Pfizer at the 4th Annual Pharma AI Summit hosted by Global BSG in London, UK.

VR Operating Room Simulation (2022) *(Tech Stack: C# and Unity)*

- Developed a medical training VR app for simulating surgical procedures.

Cryptography and Identity Management (2022)

(Cloud Tech: AWS EC2, AWS KMS, AWS IAM, OpenSSL, SoftHSM, OpenVPN, OpenLDAP, OpenID, Amazon Cognito)

- Implemented OpenID-based SSO authentication and secured web servers on AWS Cloud.
- Explored Post-Quantum Asymmetric Cryptographic Algorithms for quantum-resistant security applications.

Full-Stack (2021) *(Tech Stack: Python, Django, JavaScript, React, TypeScript, SQLite, HTML, CSS, Sass)*

- Invoice App: A web-app for generating invoices with client and product databases, user profiles, PDF export and payment tracking.
- Developed and launched an eBay-like ecommerce auction site, a Wikipedia clone, and a Twitter clone.

WORK EXPERIENCE

Project Lead, SAP Implementation | Toronto Transit Commission (TTC) | Jul 2022 – Dec 2024

- Orchestrated the successful migration from a legacy costing system to SAP PS, enhancing operational efficiency by 40% and enabling real-time reporting for over 500 users across the organization.

- Developed and executed comprehensive training programs for over 300 staff members; achieved a remarkable user adoption rate of 95% within six months, significantly boosting proficiency in SAP functionalities across departments.

- Developed and presented strategic budget allocation frameworks to senior management, aligning operational objectives with financial goals, which improved resource utilization by 30% and contributed to a cost savings of $2M annually.

- Orchestrated comprehensive ETL processes that successfully migrated and integrated 1.5 million data records into SAP systems, improving data accessibility by 80% while maintaining integrity and reliability across all platforms.

- Directed cross-functional teams during rigorous testing phases, achieving a reduction of system errors by 30% prior to launch, which facilitated a smoother transition to new processes for over 500 users within the organization.

Operations Financial Control Analyst | Toronto Transit Commission (TTC) | Feb 2017 – Jul 2022

- Directed the management of a comprehensive $3 billion capital budget over a 15-year period, enabling efficient execution of over 130 infrastructure projects, which contributed to an annual cost savings of $45 million through improved financial oversight.

- Developed and implemented a robust $166 million activity-based operating budget across 72 cost centers, employing advanced linear programming optimization techniques that resulted in a 10% reduction in overall project costs while enhancing resource utilization by 25%.

- Automated financial reporting processes that cut report preparation time by 50%, facilitating faster decision-making cycles and improving operational efficiency

- Developed and implemented advanced predictive financial models utilizing regression and econometrics, resulting in a 20% reduction in variance and enhancing planning accuracy from 65% to 85%.

- Delivered comprehensive insights on growth opportunities through KPIs by leveraging analytical tools including Power BI, MicroStrategy, and SAP BO, leading to an increase in actionable strategies.

- Presented detailed quarterly performance reviews to senior leadership that highlighted key performance indicators; facilitated data-driven discussions which improved resource allocation efficiency by 25%, optimizing budget utilization across departments.

Cost and KPI Analyst | Toronto Transit Commission (TTC) | Jan 2015 – Feb 2017

- Crated a real-time dashboard and KPIs from 5.7M+ datapoints using statistical models, consolidating into 19 actionable metrics.

- Benchmarked subway performance KPIs against global standards, collaborating with London's Imperial College.

- Provided strategic recommendations to senior executives, enhancing operational performance and cost efficiency.