Tanisha Fonseca

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Education

Concordia University **Montreal, QC**

Master of Applied Science, Electrical & Computer Engineering ***GPA: 3.85/4.30*** *Aug 2024 – Present*

- Thesis: Adaptive Weighted Object Consensus in Distributed Systems (Supervised by Prof. Gengrui Zhang)
- Courses: COEN 6311:Software Engineering , ELEC 6851: Telecommunication Networks, COEN 691: Pervasive Computing for Healthcare(ML), COEN 6761 Software Testing, COEN 6731: distributed Systems

Work Experience

Mphasis Ltd. **Apr 2023 – Aug 2024**

Technical Support Engineer *Pune, India*

- Engineered technical solutions in a **24/7 Global Service Desk**, resolving **100+ monthly tickets** with a **98%+ resolution rate**, consistently exceeding SLA targets and improving customer satisfaction by **25%**
- Designed and optimized L1/L2 troubleshooting workflows for **AWS (AppStream, WorkSpaces, EC2)**, VPN, and SharePoint; reduced MTTR by **30%**, supported **100+ enterprise users**, and resolved **20+ critical escalations** using **ServiceNow** and **Active Directory**

TELUS International AI Data Solutions **Jan 2022 – Jan 2023**

Search Engine Evaluator *Remote*

- Executed data quality assurance for **AI/ML training datasets**, evaluating **10,000+ web search results** monthly across **15+ categories** with **98%+ accuracy**, contributing to **12% improvement** in search quality metrics
- Designed UHRS-based data annotation pipelines and analyzed **5,000+ queries** to identify intent mismatches and ranking issues, enhancing search algorithm performance

Projects

WOC: Dual-Path Weighted Object Consensus | *arXiv 2512.20485* **Python | Distributed Systems**

- **Published research paper** (First Author) on adaptive weighted consensus protocols demonstrating **40% throughput improvement** over Cabinet and **35% improvement** over EPaxos; designed dual-path protocol with object-based and node-based weighted quorum systems

Sleep Disorder Detection via PPG/ECG Signals **Python | TensorFlow | Keras | XGBoost**

- Built and benchmarked **3 ML models (CNN, LSTM, XGBoost)** achieving **94% accuracy** on **10,000+ biomedical samples**; applied preprocessing pipeline with noise filtering and feature extraction using **NumPy** and **scikit-learn**, improving performance by **15%** over baseline
- Optimized hyperparameters through **5-fold cross-validation**; evaluated using precision, recall, and F1-score across **4 sleep disorder categories**

Certifications & Awards

Certifications: Oracle Cloud Infrastructure 2025 AI Foundations Associate, Oracle Cloud Infrastructure 2025 Generative AI Professional, Oracle Database@AWS Architect Professional, JPMorganChase Software Engineering Job Simulation

Awards: Master's Entrance Scholarship (Concordia, Sept 2024), Research Assistant IISRG (2018–2019)

Technical Skills

Languages: Python, Java, JavaScript, Go, C++, C#, SQL, HTML/CSS, VHDL

Frameworks & Libraries: Spring Boot, React.js, Angular, Node.js, Django, TensorFlow, Keras, scikit-learn, Hyperledger Fabric

Cloud & DevOps: AWS (EC2, S3, Lambda, AppStream, Workspaces, DynamoDB, RDS), Docker, Azure, MySQL, PostgreSQL, MongoDB

Tools & Technologies: Git, Postman, ServiceNow, Jira, Active Directory, VPN, Wireshark, PuTTY, NumPy