JOEL THOMAS CHACKO

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PROFESSIONAL SUMMARY

An industrious gold medalist in computer science with over 2 years of software development experience in leveraging technology to drive innovation. A published Machine Learning researcher and active maintainer of a self-authored open-source Python module with over 14500 installations. With strong teamwork skills and a drive to stay at the forefront of technological advancements, I aim to leverage my expertise to significantly contribute to the tech landscape.

EDUCATION

M.Sc., DATA AND COMPUTATIONAL SCIENCE

University College Dublin (UCD) | Sept 2024 - Present

- Modules include ML and AI, Regression and Statistical Analysis, Statistical Machine Learning, R, Python, Probability, and Statistics.

B.E., COMPUTER SCIENCE AND ENGINEERING | GPA: 9.89/10, Gold Medalist

MVJ College of Engineering | Sept 2019 – Sept 2023, India

- Modules included Machine Learning and AI, Data Structures and Algorithms, Object Oriented Software Engineering, Theory of Computation, Deep Learning, and Differential Equations, Software Development Methodologies
- Authored and published three research papers, including one in the prestigious IEEE journals.

SKILLS

LANGUAGES | Python • Go • C++ • R
DATABASE TECHNOLOGIES | MySQL • S3 • PostgreSQL • Spark • RDS
FRAMEWORKS & TOOLS | Flask • Django • Numpy • Pandas • Agile • Selenium • Restful APIs
CLOUD TECHNOLOGIES | AWS (Lambda, S3, EC2, RDS) • Azure • IBM Cloud
CICD TOOLS | Jenkins Automation • Docker • Kubernetes • OpenShift • GitHub Actions • Dynatrace • ArgoCD
DATA ANALYTICS TOOLS | Power BI • Dynatrace

PROFESSIONAL EXPERIENCE

AUTODESK, INC. | Ireland, June 2025 – Aug 2025

Software Engineering Intern | Go, Python, K8s, Docker, Terraform, ArgoCD, Dynatrace

- Developed Cron-based Go executables on EKS clusters to serve schema directive files from AWS EFS via ALBs, enabling real-time auto-complete and validation in developer's IDEs.
- Created IRSA roles with Terraform and deployed Kubernetes resources through Argo-CD for secure, automated delivery.
- Built Dynatrace dashboards consuming AWS CloudWatch logs to improve monitoring and troubleshooting.
- Designed Cloudbees's Jenkins Controller Regression Test Suite Framework using declarative and scripted nested Jenkins pipelines, reducing EC2 agent usage by 84.12%, reducing Regression costs by 39.07%.

TALLY SOLUTIONS PVT. LTD. | Bengaluru, May 2023 - Aug 2024

Software Test (Operations) Engineer | ***Python, AWS, Open Generative AIs, LLMs, Docker, K8s***

- Led the initial feasibility research and directed the migration of Jenkins from Windows to a Dockerized Linux environment on AWS, resulting in a projected 40% improvement in deployment efficiency and a 70% reduction in operational costs.
- Ensured 100% up-time of dockerized Dev, Staging, and Production Jenkins servers on Amazon EC2 Instances, mitigating data loss risks by 100% using AWS ECS & EKS facilities.
- Boosted workflow execution times by 99.35% using Python Multi-Pool Executor & AWS Compute Services and optimized MySQL in-code pings by 99% using Redis-like functionalities in Python.
- Designed solutions with Prompt Engg. with Generative AI (OpenAI APIs)-LLMs, and ML clustering models to automate test script writing processes, and improve automatic failure classification tasks. Used Selenium to automate web testing.
- Published a Python open-source module - Context-Aware-Jenkins-Job-Transfers to enhance workflow efficiencies by over 80% with the help of several multi-disciplinary mentors.

OPEN-SOURCE CONTRIBUTIONS

CONTEXT-AWARE JENKINS JOB TRANSFERS | *Python, CI/CD* | Documentation

- Authored and maintain 'Context-Aware Jenkins Job Transfers', a tool which provides a Pythonic way of transferring jobs and its associated views and plugins between 2 Jenkins servers.
- Users now transfer jobs along with their associated views and plugins improving workflow efficiencies by 80%.

MATHEMATICAL MODELLING OF RACE LINES | *Nextjs, FastAPI, Python, Modelling* | GitHub Repo

- Created an optimized race line for a custom user drawn track accounting for parameters like Torque, Acceleration, Friction, Aerodynamic Forces etc. implementing a Physics based model, and a 2 Step Algorithm to minimize Lap Time.
- Built a simulation engine that implements the three models' algorithms.

BROWSER FOR LOCAL MACHINE – WIP | *C++, Cmake, ML Models, NLP* | GitHub Repo

- Engineering a browser for local machines to have browser-like capabilities, which would enable the users to search for files using natural language, and perhaps even images. *(Prompt – 'List out the Pictures that I took on the 14th of May")*
- Utilizing C++ libraries for Machine Learning like TensorFlow APIs for C++, NLP Models, Graphs.

LEADERSHIP AND EXTRACURRICULARS

- Conducted Tech-Talks for Tech Societies (Git, Multi-Threading) (2023) & Tech-Mentor — MVJCE
- Open Source Python Module – Author & Maintainer (2024) — PyPI
- School Captain & Sports Vice Captain (2017) — NMS
- Church Newsletter's Editor-in-Chief & Program Coordinator

RESEARCH PUBLICATIONS

- Peer-to-Peer File Streaming Using Web Sockets Protocol (IEEE) — Show Publication
- Comparative Study of Regression Models using Case Study of Limited Data (IJIRCCE) — Show Publication
- Personalized Route Selection using Machine Learning (IJIRCCE) — Show Publication

AWARDS AND ACHIEVEMENTS

- Star of the Quarter Nomination (2024) — Tally Solutions Pvt. Ltd.
- Spot Award for Excellence (2024) — Tally Solutions Pvt. Ltd.
- Achieved the top rank among over 900 students across all departments at MVJCE — MVJCE
- Meritorious Student Award, Scholarship recipient (2019-2023) — MVJCE
- Tri-Continental Hackathon Runner-Up at Notre Dame, US — UCD

CERTIFICATIONS

- IBM Digital Credential – Container & Kubernetes Essential V2 (Containers, K8s, OpenShift) — IBM Cloud
- Advanced C++ Training (2022) — IIT Bombay
- Java Training (2022) — IIT Bombay
- Supervised Machine Learning: Regression and Classification (2023) — Coursera
- Full Stack Data Scientist (2023) — Coursera

INTERESTS

- **INTERESTS:** Comedy Sketch Writing, Debating, Reading, Playing Guitar, Cycling, Playing Polyrhythms.
- **LANGUAGES:** Malayalam, Kannada, Tamil, Hindi, English