ABISHEKRAJ VINAYAGAR GNANASAMBANDAM

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Versatile SWE with 3+ years of experience in Backend development and Release management, highly skilled in Python, Java, Shell scripting, and Azure, with a Master's in Computer Science from Warwick, focused on Computer Security, Data Analytics, ML and Federated Learning.

TECHNICAL SKILLS

Python, Java, C++, Shell Scripting, Git, SVN, SQL, PostgreSQL, Apache Ignite, RESTful APIs, Microsoft Azure (AZ-900 Certified), Docker, Kubernetes, Azure DevOps, Release Management, Agile-Scrum, Requirements gathering, Incident-Response, CI/CD Pipelines

PROFESSIONAL EXPERIENCE

University of Warwick, Tissue Image Analytics (TIA) Centre, United Kingdom | Software Engineer | September 2023 – Present

- Contributing to the development of the TIAToolbox, a PyTorch-based computational pathology framework, part of the BigPicture project funded by the EU Innovative Medicines Initiative (IMI) at Warwick's Department of Computer Science
- Collaborating on the development of a web-based Cytomine platform for the TIAToolbox

Infosys, Chennai, India | Senior System Engineer | Oct 2021 - Aug 2022

- Orchestrated sprint-wise software releases as a Release Manager to a team of ten developers, undertaking:
  - Git Codebase management, reviewing and merging PRs from multiple branches into release branches across six repositories
  - Regression testing of inter-dependent modules, versioning & packaging into docker images
  - Documenting release updates in changelogs and Wiki pages, deployment instructions for QA and Production environments
- Collaboratively Investigated two Proofs-Of-Concepts (POCs) for usage-based resource allocation and presented results over stakeholder meetings, persuading a Production implementation, leading to a 50% reduction in the team's overall cost to Azure Cloud
  - Designed a seamless weekend shutdown Cron tool with auto-deployment, data backup/restore to scale dormant nodes & pods
  - Implemented traffic-based autoscaling through customized scripts, Kubernetes operators, and Azure's horizontal pod auto-scaling based on CPU utilization and volume of live data ingested, dynamically scaling down up to just 30% of nodes, reducing by 50%
- Recognized for my meticulous documentation on Jira, independent experiments, Team collaboration and Communication skills.
- Mentored 5 new developers & testers on the API development flow, cloud fundamentals, Git and Containerized App development.
- Provided round-the-clock support towards Production deployments and miscellaneous troubleshooting

Infosys, Chennai, India | System Engineer | Aug 2019 - Sep 2021

- Critical developer in the Azure cloud migration of a monolithic AT&T Big Data Analytics application into containerized microservices.
- Built RESTful APIs using Java, integrated with customized distributed Apache Ignite & PostgreSQL databases
- Scripted JSON/YAML config-driven Python & Bash tools to build, share Docker containers and deploy into Kubernetes pods
- Defined holistic claim on the Azure infrastructure by building, copying, deploying, and scaling containerized apps using Azure Container Registry and Azure Kubernetes Service through shell scripts on Azure VMs and automated via Azure CI/CD Pipeline
- Established a solid practice of software development through Agile Scrum methodology

Infosys, Mysore, India | Intern | Dec 2018 - May 2019

- Developed an e-commerce web app employing Java Spring suite and Angular JS
- Selectively upskilled in the foundations of SAP Hybris

Oil and Natural Gas Corporation, Chennai, India | Intern | Jun 2016

- Explored legacy systems and the application of computers in the field of Geo-Sciences
- Developed data retrieval and processing tools in Assembly and C

EDUCATION

Master of Science in Computer Science (September 2023) University of Warwick, Coventry, United Kingdom

- Modules include: Data Analytics, Data Mining, NLP, Adv Computer Sec., Game theory, and Agent-based systems
- Course Rep in the Warwick Student Staff Liaison Committee (SSLC) representing the MSCS cohort
- <u>Dissertation Project: Mitigating Device and Behavioural Heterogeneity in Federated Learning</u>
  Conducted research on simulating the effects of heterogeneity in Federated Learning through dynamically randomising device capabilities and data partitions through a highly customisable, scalable, and platform-independent federated learning setup consisting of Flower framework in conjunction with Hydra for dynamic configuration management and Ray for resource-aware parallel execution.

Bachelor of Engineering in Computer Science (June 2015 - April 2019) Anna University, Chennai, India

- Modules include: Data Structures, DBMS, Comp Arch, Networks, DAA, Distributed Systems, Comp. Forensics, AI, Comp Sec.
- Dissertation Project: IDROID - Intelligent DNA Phenotyping Global Recognition and Oblivious Image-Processing
- Partnered in experimental projects and presentations as an Entrepreneurship cell committee member
- Spearheaded student-led summer boot camps for industry-oriented training for non-tech students in Programming, SQL & DSA

CERTIFICATIONS

1. Microsoft Azure Fundamentals AZ900 (October 2021)
2. Grid Gain Developer Essentials: Apache Ignite (October 2021)
3. Certificate in Digital Transformation Program – Java Enterprise Apps with DevOps National Institute of Information Technology (NIIT)
   - Trained in Java EE Server-side technologies, Spring suite, Hibernate and DBMS through H2 DB
   - Gathered rudimentary concepts of Agile methodology and DevOps in software development.