ANANDHARAJU DURAI RAJU

Technology Lead | 7+ Years | Back-end Development

604 518 3116 ♦ aduraira@sfu.ca ♦ linkedin.com/in/anandharaju ♦ Burnaby, BC

TECHNOLOGY STACK

Languages/Databases
- Python 3.x
- Java 8.x
- MPI with C++
- Bash scripting
- Apache Spark
- Postgres
- HBase
- SQL – Oracle 11g, DB2
- JavaScript
- J2EE (JSP)
- HTML, CSS

Tools/Packages
- TensorFlow - Keras
- PyTorch
- Logstash
- Kafka
- GIT / TFS / SVN
- Jira
- Confluence
- Jupyter Notebook
- REST API
- Putty
- MobaXterm

IDEs
- Eclipse
- PyCharm
- IntelliJ
- Visual Studio
- Toad for Oracle
- DBVisualizer
- Postman

Operating Systems
- Windows
- Linux

AI & ML Platforms
- Google colab
- AWS
- Infosys NIA
- Microsoft Azure
- IBM Watson

RPA Platforms
- Automation Anywhere
- BluePrism
- UiPath
- Edgeverve AssistEdge

RESEARCH EXPERIENCE

Research Assistant, Simon Fraser University | Canada | Database Lab   **Jan 2019 – Till Date**

- Worked on a two-tiered architecture using TensorFlow (Keras) library to improve the malware detection performance of existing state-of-the-art convolutional neural network (CNN) models.
- Automated the extraction and conversion of hidden layer information from CNNs into meaningful representation to be used for reducing misclassifications.
- Devised and implemented three different variants of the two-tiered architecture in Python, and evaluated their results on two different datasets and achieved significant performance improvements.
- Completed a directed study over Lateral Movement based stealthy attacks that poses critical threat in compromising network wide systems.

Tools and Technologies used: Python, TensorFlow (Keras), PyCharm, Bash Scripting, Jupyter Notebook, Slurm

INTERNSHIP EXPERIENCE

Researcher Intern, Huawei Canada | Canada | Data Privacy and Protection Technology Lab, Waterloo
Research: *Linux (ELF) Malware Detection*   **Jan 2021 – Dec 2021**

- Achieved 1st place by delivering a top performing neural network model for a tabular malware dataset.
- A survey on cross-architectural IoT ELF malware threat hunting – Published in IEEE Open Access
- Advanced assembly learning for cross-architectural IoT ELF malware threat hunting – Submitted to IEEE Symposium on Security & Privacy
- Dynamically informed static analysis to improve Opcode-based malware detection
- Model compression using Knowledge Distillation techniques
- Explored novel learning methods via 3D-CNNs and Grouped convolution for learning different feature types.

Tools and Technologies used: Keras, Tensorflow, Pytorch, Docker, Python (multiprocessing), Dask (pandas), Jupyter Notebook, Linux, Git

PROFESSIONAL EXPERIENCE

Technology Lead, Infosys Limited | India | Artificial Intelligence and Automation Services
Client: *Telstra, Australia*
Project: *Data Provisioning Platform – Order Visibility*   **Jan 2018 – Dec 2018**

- Acted as a Feature Team Lead (Onsite + Offshore) driving the project development.
- Managed a development team of 14 resources – for UI, API and Spark modules.
- Planned Agile sprints including resource allocation and execution.
- Developed Spark Streaming based modules for processing real-time event data.
- Postgres database management activities for dev and test regions.

Tools and Technologies used: Apache Spark, HBase, Springboot, Postgres, Kafka, Logstash, REST API services, Linux Bash scripting, Java 8.x, Postman, JIRA, IntelliJ Idea, Eclipse IDE, Kibana, Grafana, Git

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Technology Analyst, Infosys Limited | India | NIA Expert Services and Solutions
Client: *ONGC, UK*   **Aug 2016 – Dec 2017**
Project: Business Process Automation

- Developed solutions for a petroleum client to automate gas quality and weather monitoring activities using Infosys' Nia and RPA platforms along with open source technologies.
- Understood and gathered knowledge over existing organizational data from people, processes and legacy software systems to discover the potential areas of automation.
- Analyzed and Designed solutions in accordance to the client landscape, and estimated manual effort and cost for an RPA automation solution. Implemented Proof of Concepts for the proposed automation solutions.
- Engaged clients as well as account teams driving the requirements discussion, and managed a team of 3.

Tools and Technologies used: Infosys NIA, RPA platforms – Automation Anywhere, UiPath, AssistEdge, BluePrism, Oracle SQL, Java 8.x, GitBash, Linux Bash scripting, Eclipse IDE, Postgres.

Technology Analyst, Infosys Limited | India | Retail, Commerce and Logistics
Client: *Mondelez International, France*
Project: *Profil and Lucas*   **Nov 2013 – Jul 2016**

- Provided web-based inventory management of various product assortments for a confectionary brand.
- Played major role in designing and implementation of application code changes and enhancements in the form of change requests. These efforts fetched me "AWARD OF EXCELLENCE" recognition twice as well as appreciations from higher management and client side.
- Performed root cause analysis as well as estimation of efforts for defect/bug fixes.
- Framed test cases and performed unit testing, integration testing and regression testing.
- Involved in knowledge management activities at account level.
- Performed database management activities and performance tuning activities to improve UI responsiveness.

Tools and Technologies used: IBM DB2, Eclipse IDE, Java 8.x, Struts, JSP, Unity3D, BMC Remedy, IBM Websphere

Senior Systems Engineer, Infosys Limited | India | Retail, Commerce and Logistics
Client: *Mondelez International – Germany, France and Nordics*
Project: *PPMS, Webshop*   **Jul 2012 – Oct 2013**

- Performed application development, maintenance and 24x7 support for an e-commerce B2B solution, and participated in solution engineering for placing different types of orders like standard, seasonal and returns.
- Played the role of configuration controller at project level.
- Developed SQL scripts and procedures for generating reports in PPMS.
- Carried out tuning activities for increasing PPMS application performance.
- Contributed for sending weekly and bi-weekly knowledge management mailers at account level.
- Provided B2b and B2C sales maintenance and support for Webshop application's SAP backend.

Tools and Technologies used: SAP ERM, Toad for Oracle, Eclipse IDE, Java Swing, BMC Remedy

Systems Engineer, Infosys Limited | India | Artificial Intelligence and Automation Services
Client: *Telstra, Australia*
Project: *InfoVista*   **Sep 2011 – Jun 2012**

- Infovista - a network performance management tool for providing a centralized and comprehensive view of performance data (Voice, Internet) across a network infrastructure.
- Played major role in upgrading of Infovista VFK kit in all production servers, and provided support for centralized monitoring of Voice/Internet data performance.
- Prepared SQL scripts for module level testing, rollout and functionality testing support, and carried out the Configuration Management activities for VFK Upgrade.

Tools and Technologies used: Solaris, Putty, VNC, Linux Bash scripting, Java, JSch, Eclipse IDE

AUTOMATIONS

Professional:
- IV Status Checker (2015): A tool to monitor the status of InfoVista networking components deployed in servers. Built on top of the SSH client - Putty, the tool automatically probes all the Production and Test servers using JSch, and reports collected information to support team. It automates the process of remote server connection, wherein, manual connection to the hundreds of remote servers using putty is a tedious task especially when there are multiple jump (intermediate) servers present.

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Academic (Undergraduate):

- Focused Web Crawling (2010): To gather and collate information about wildlife sanctuaries all over India, aimed at being a one stop solution providing consolidated views and insights using Java, PHP and Postgres.
- Transporter (2008): Developed a Java-based application that implements mathematical optimization concepts for the Transportation problem in "Operation Research". Concepts include heuristic methods like, North-west Corner Method, Matrix Minima Method, and Vogel's Approximation Method

EDUCATION

Ph.D., School of Computing Science, Simon Fraser University, Burnaby   (2019 – Till Date)
Bachelor of Engineering in Computer Science, Anna University, India   (2007 – 2011)

AWARDS AND ACCOMPLISHMENTS

- Won the **"AWARD OF EXCELLENCE"** - twice in 2015 and 2016 awarded by Infosys Limited at unit level, for adding business values to my projects with my commitment, hard work and competency.
- Garnered **"GOLD MEDAL"** in my undergraduate studies from Anna University at state level in 2011.
- Played the role of **"STUDENT CHAIRMAN"** of Computer Science department in Sona College of Technology during 2010 - 2011.
- Had undergone **"YOUNG STUDENT SCIENTIST PROGRAM"**, an initiative directly under the control of, by then, President of India, Dr. A.P.J Abdul Kalam, during my schooling, for three years in a row.
- Certified in **ROBOTIC PROCESS AUTOMATION TOOLS**: Automation Anywhere Advanced RPA Professional.
- Certified in **"IBM RATIONAL APPLICATION DEVELOPER"** for Websphere 6.0 during 2011.
- Completed training in "IBM Watson V3 application development" and in "Perform cloud data science with Azure machine learning" during 2017.

COMMUNITY ENGAGEMENTS

- Active member of "SNEHAM" - a social welfare group aimed at orphanage care activities, and identification of talented children for educational sponsorships.
- Had been a member of ECOGROUP in Infosys Limited and worked on environmental campaigns by Infosys Limited over Beach cleaning drives, Plantation of Saplings and rural school cleaning activities.
- Cadre of SCOUT and NCC in School level, and Member of NSS in Sona College of technology.
- Participated in Pulse POLIO Immunization Campaign conducted by Salem City Municipal Corporation where I have been part of the group to spread awareness over POLIO Immunization among the public.
- Voluntary blood donor. Member of blood bank in Salem and Chennai, India.
- Participated in "Healthy Youth for Healthy India" campaign organized by my college's National Service Scheme unit, which was aimed at giving a free basic medical checkup for the people at Karukalvadi village.

INTERESTS

Building skills on AWS Tools	Photography	Photoshop