Core Competencies

- **Programming knowledge**: C, C++ and Python
- **Databases**: LMDB, Oracle RDB, Amazon DynamoDB
- **TOOLS**: GIT, GDB, Putty, WinSCP, FileZilla, Grafana, Jenkins, Consul, Chef, Runit, Collectd, Apache Kafka, Logstash
- **Methodologies**: Waterfall, Agile, Scrum, Test Driven Development
- **Operating Systems**: Linux, HP UX, CentOS, and OpenVMS
- **Scripting Languages**: Linux Shell Scripting and Python scripting

Skills and Knowledge

- **AWS:**
  Data Storage Fundamentals
  Security Foundations
  AWS Service Selection
  AWS Cloud Infrastructure
- **Machine Learning**: KNN, SVM, Naïve Bayes, Random Forrest, Linear Regression, Logistic regression.
- **Deep Learning**: CNN, RNN, LSTM, Back propagation, Activation Function.
- **Model Evaluation and Metrics**: Accuracy, Confusion Matrix, MSE, RMSE
- **Model Tuning**: Cross Validation, K-Fold validation, Gradient Descent
- **Technological Proficiencies:** Numpy, Pandas, Matlab, Keras, Tensor Flow, Scikit Learn, NLP.
- **Data Analytics**

Chidambaram P
Project Lead / Architect

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Location: Bangalore, India

AWS Certified Solutions Architect - Associate

Project Lead with 18 years of experience in IT services and product delivery in Transportation (Airlines), Operating System internals and Storage domains. Experienced in developing Machine Learning models and Analytics for 3 different clients. Highly skilled AWS Solution Architect with over 2+ years of successful experience in Cloud Architecture and Implementation. An outstanding performer in building high quality solution that is scalable, highly available and fault tolerant. Expertise in product development and application maintenance.

- Extensively worked on Performance Optimization and Memory Optimization.
- Gained experience in designing, deploying, and maintaining enterprise class security, network and systems management applications within an AWS environment.
- Proficient in selecting appropriate Cloud services to design and deploy an application based on given requirements.
- Strong working knowledge of UV / H2O libraries and Load Balancers.
- Experience in Spark and Scala.
- Knowledge & experience of Software Development Life Cycle including design, data modelling, software implementation, documentation.
- Good exposure to system analysis and design, system development, integration, installation, deployment, client interaction, software development process.
- Good leadership, mentoring, reviewing, defect tracking, progress tracking and reporting skills.

WORK HISTORY :

Project Lead / Architect (Jun 2017 – Present) @ Mphasis
Machine Learning and Analytics:

Project 1: Cognitive Test case Selection
Developed a Machine Learning model to select a set of test cases from a larger group, based on the features implemented or enhanced in a specific Firmware version of a server model. Implemented k-means clustering to select applicable groups of test cases and Logistic Regression to select more appropriate from them. This has reduced test case selection time from 3 days to few minutes.

Project 2: Airlines Data Platform
My responsibility in this project is to analyse and derive possible insights from available Data. Huge data is collected from Airlines through Kafka and various utilities have been developed to maintain and refactor the data. Developed few ML models (based on k-means clustering) to derive relationships between season and hike in demand, age groups and preferences, geographic locations and preferences. This has been helping us to present better insights to client thus helping their business to grow.

Project 3: Real time analytics of airline tickets sell transactions
Developed and implemented a utility to detect abnormal bookings pattern based on a market (origin and destination) or a booking location/agent code. This gives an option to trigger predefined rules such as to close out all the seats in demand, to modify price etc., The future work is to provide recommendations to users based on their flying pattern.

Project Name: Availability Calculation Engine
This module is to calculate the real time availability for airline bookings. This is the heart of the application as it interacts with many other modules like Rules Engine, Revenue Management System and different Global Delivery Services for various inputs. It also interacts with other partners of the host airline to enquire their availability on behalf of host. It uses LMDB (Lightening Memory Database) to store and retrieve data. This is one of the fastest DBs available in market today.

Project Name: Flight Connection Builder
This module is to provide possible combinations of connectivity-based solutions for a given set of Origin and Destination for airline bookings. This is the intermediate module between shares and Availability Calculation Engine, where in Shares comes to Flight Connection Builder first to take the set of available solutions and then comes to Calculation Engine for seat availability information.

Environment: C, Shell Scripting, Python, Scala, Spark, Kafka, Jenkins, GIT, Chef, Grafana, Logstash, LMDB, Consul, Runit, Collectd

Responsibilities:

- Involved in application design and development from the base.
- Migrating the application to Azure environment.
- Implemented Data Analytics for the project using Scala and Spark cluster-computing framework.
- Designed and developed In memory compute architecture providing ultra-high performance while reducing operating expense using LMDB.
- Good experience with continuous Integration of application using Jenkins and git for Build.
- Performance optimisation in Availability Calculation Engine - reduced the average response time from 12ms to 8.5ms (29%) by replacing str calls with mem calls and dynamic allocations with static ones.
- Memory optimization in Availability Calculation Engine – reduced the memory utilisation by implementing dynamically calculated session size instead of static structures. This resulted in reducing the memory usage by more than 75% and in turn increased the performance as well.
- Performance optimisation in Flight Connection Builder – redesigned the solution building algorithm to reduce the number of reads from DB and implemented caching as applicable to reduce the average latency from 35ms to 29ms (17%).
- Involved in cross team design discussions and feature implementations.
- Extensively worked on UV / H2O libraries for communication, Load Balancers for distribution and Kafka to maintain internal data integrity.
- Involved in building code to collect various metrics and represent them through different Grafana panels for customer and Production Support team members.

Project Lead / Architect (March 2014 – May 2017) @ Mphasis
Project Name: Storage Driver Development (SCSI and FC Drivers)
The primary function of a storage driver is to act as an intermediary between an operating system and a piece of hardware. When an operating system or another program sends a command to a mass storage device, it is really sending that command to the driver. The command is then translated by the driver into an instruction set that the mass storage device understands.

Environment: C

Responsibilities:

- Technically Leading the team and mentoring the Team Members.
- Involved in implementation of Storage Reclaim feature.
- Enhanced the Storage Utility to detect and work with SAS disks of greater than 2TB size.
- Analysed and fixed variety of customer reported issues.
- Performed reviews of project plan, customer updates, code and test cases.
- Involved in Brainstorming sessions, Scrum meetings and estimation of the tasks for user stories.
- Performed the business, System/Integration testing. Responsible for fixing the defects in Dev/UAT and Production.

Technical Lead (Oct 2011 – Feb 2014) @ Mphasis
Project Name: OpenVMS Operating System Support
As part of OpenVMS Operating System support, I was responsible for maintenance of below list of products
- Posix Threads: Provides a library to users of OpenVMS to design and implement their applications in multithreaded environments.
- DECWindows (UI interface): is a suite of applications including the Motif window manager, the Session Manager shell, and several accessories that run using the X11 protocol to talk to an X server over TCPIP or DECNet.
- ACMS: Application Control Management System, a transaction processing management software for computers running the OpenVMS operating system.
- SMH: HP System Management Homepage (HP SMH) for OpenVMS is the single system management solution for managing OpenVMS. The key features of HP SMH for OpenVMS are its system administration capabilities and its ability to display details of hardware attributes.

Environment: C, C++

Responsibilities:

- Spearheaded the team of size 9 and motivated the team of freshers to meet project deadlines by guiding them technically from the scratch, assisting in trouble shooting and resolving customer issues.
- Assessed business requirements for technical feasibility and customer experience, analysed the features, split them into tasks and allocated to the team.
- Analysed and fixed variety of customer reported issues.
- Performed reviews of project plan, customer updates, code and test cases.
- Provide guidance and oversight to Business Analysts and QA team to ensure that Implementation is as per defined objectives and standards.

Senior Developer (Oct 2007 – Sep 2011) @ Mphasis

Project Name: DTAG Reservations

DTAG Reservations is built for Dollar and Thrifty group's automobile reservations maintenance. Reservations is a backend for the DTAG application. Reservations can be made from different Global Delivery Systems and all the transactions are handled by VMS servers. Rates information is stored on Rate Engine. Reservations application Interacts with Rate Engine for all Rates Related information using TCP/IP and sends information back to Rate Engine every time a reservation is booked and confirmed. The VMS Front End JAM Application communicate with the Reservations application using ACMS.

Environment: C, C++, RDB, PRO C

Responsibilities:

- Enhanced the design of Processing Specialty Bookings.
- Automated the jobs related to report generation using DECScheduler.
- Analysed and fixed variety of customer reported issues.
- Performed reviews of project plan, customer updates, code and test cases.
- Mentoring the Team Members on the Application and Technology.

Senior Developer (Jul 2006 – Oct 2007) @ Hewlett Packard

Project Name: HP OpenVMS Commands and Utilities

Transitioning the project from HP to HP(STSD) in NASHUA, USA. Commands & Utilities consists of a set of services and utilities that define the VMS usage environment. In short it covers pretty much the entire gamut of commands that users need for day-to-day operations in VMS.

Environment: C

Responsibilities:

- Design and shape technical solutions to support the new business offerings.
- Guided junior team members to implement optimized solutions for various customer reported issues and enhancements.
- Enhanced the design of Batch Processing and improved processing speed of shell commands.
- Analysed and fixed variety of customer reported issues.
- Performed reviews of customer updates, code and test cases.

Developer (Jun 2004 – Jun 2006) @ Hewlett Packard

Project Name: HP OpenVMS Software Engineering Tools

Transitioning from EDS to HP in NASHUA, USA and maintaining set of HP OpenVMS Software Engineering Tools. These tools are widely used in OpenVMS development.

Environment: C, C++

Responsibilities:

- Instrumental in gathering the requirements and implemented the solutions with at most care for quality.
- Enhanced CMS to store MS Windows files.
- Enhanced the build (MMS) and Configuration Management tool (CMS) to support ODS-5(UnixStyle) file types.
- Implemented customized search command in TPU.
- Analysed and fixed variety of customer reported issues.