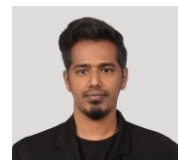# SENTHIL NATHAN

SENIOR SOFTWARE ENGINEER

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senthilnathanrajakumar.github.io

Linkedin/senthilrajakumar

EDUCATION

BACHELOR OF ENGINEERING (71.3%)
Electrical and Electronics
Anna University, Chennai, India
2005 − 2008

DIPLOMA DEGREE
(84.8%)
Electrical and Electronics
Department of Technical Education,
Tamilnadu, India
2002 − 2005

CONSULTANT EXPERTISE

Server & VM Migration /Tech Refresh
(Database Upgrade)

DevOps/SCRUM-Agile/Waterfall

Technical Leadership

Project Scheduling

Resource and Work Breakdown Structure
Charts

CASE Tools

UI UX Prototyping

Risk Assessment

Resource Management

CERTIFIED COURSE

Microsoft Certified: Azure "AZ900"

AWS Cloud Practitioner Essentials

Certified Professional Scrum Master
(PSM1)

C, C++, UNIX, J2EE, .NET Programming

"Bootcamp Training (NCS): Solution IT
Architect, Business Systems Analyst"

PROFESSIONAL PROFILE

13 + years of **Programming** and **Consultancy** experience in Microsoft Technologies on the **DOTNET** platform in all stages of the SDLC (Software Development Life Cycle), including studying user requirements, analysis, design, implementation, testing, deployment, documentation and maintenance of various stand-alone, intranet, cloud computing, client-server and web-based projects, with exposure to diverse business domains including **Healthcare Robotics Automation (HealthTech), Data Storage and Technology, Retailing, and Financial.**

Core competencies include:

- Architecting and designing high-quality **Cloud Native** Greenfields software solutions, translating business requirements into scalable, flexible, and secure systems for public and government commercial cloud platforms using **.NET Ecosystem, Agile** and **DevOps.**
- Provided **technical leadership**, working with business stakeholders, vendors, and IT management to create scalable and robust Single Page Applications (**SPAs**) utilizing **Angular, React and Vue.js** frameworks that integrated with **SOAP** and **Web API** backend services and were hosted on Amazon Web Services (**AWS**) and **Microsoft Azure.**
- Keep abreast of industry trends and emerging **AI, ML, IoT and Edge computing** technologies.
- Engaging with cross-functional teams (Product Owner, Business Analyst, QA Practice Lead) in order to conceptualize **prototype designs** and Proof-Of-Concepts (**POCs**), and turning them into tangible solutions for end users' needs.
- Strong solution orientation and problem-solving skills.

EXPERIENCE SUMMARY

SENIOR SOFTWARE DEVELOPER
Synapxe (formerly IHiS- National HealthTech Agency) Singapore / September 2023 – Present
Payroll by (Helius Technologies Pte Ltd)
.NET Core, SAP MM, Web API, WCF, ASP.NET, React Native & IOS Hybrid App, SQL 2016-19

- Leading the development and collaborate with system custodians, users, and vendors to gather requirements and integrate cloud infrastructure with SAP MM for a centralized 'Supply Chain **Inventory Management System**.' Implemented at TTSH and NUH hospitals, the system automates medication packing verification, optimizes pharmacy operations, and enhances medication safety with barcode scanning and drug image display.
- Developed a secure 'SOAP **WCF service and RESTful API**' integrating with Microsoft Active Directory for authentication on mobile and web platforms, and interfaced with SAP-MM to generate pick lists for top-up operations, resulting in a 60% reduction in SAP SE software procurement costs.
- Designed and developed a '**React Native iOS hybrid app**' that streamlined ward shelf top-up and bin verification, enabling quick inventory checks and stock matching, reducing medication errors, and improving pharmacy productivity by 25%.
- Involved in **Change Requests and Enhancements** for web portals and iOS hybrid apps, managing JIRA and sprint backlogs integrated with Visual Studio GitHub repositories to track code changes and using SonarQube for code quality, improving productivity and assisting with client custom report delivery.
- Prepared test cases, technical and functional specifications, data dictionaries, and system requirements for the Inventory Management System web portals.
- **Delivered high-quality software** by conducting system integration testing, assisting end users with UAT, performing penetration testing for security vulnerabilities, and load testing. This ensured application security, maintained performance during peak pharmacy hours, and met the customer-agreed Service Level Standards.
- Installed SSL certificates for web portals, REST APIs, and SAP interfacing web services, participated in code reviews and optimizing **SQL database performance.**

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CORE SKILLS

HL7, QDX, ATT Queue system

SFTP, FTP, Tectia File storage

TCP Client Socket Middleware Integration

API Development

Microservices

OOP Design patterns

Internet Protocol Suite (TCP/IP)

RDBMS

SOA/Monolithic

GUI, UI/ UX (XAML, WPF, HTML/5)

Defect Tracking (JIRA)

Front-End Framework: Node.js, Angular, React, Vue, Knockout

Software Refactoring

Data Distribution Service

DevOps Azure CI/CD Integration

REFERENCES

RAMASAMY VEERAPPAN
ERP- Supply Chain Apps, Manager
Synapxe, Singapore
+65 98189207
ramasamy.veerappan@synapxe.sg

VENKATESH PRABHU
Project Director
Hanodale Technologies Sdn Bhd
Malaysia
+60 126847046
prabhu@hanodale.com

EXPERIENCE SUMMARY continued

SENIOR CONSULTANT APPLICATION
NCS Pte Ltd (Singtel Group) Singapore / April 2016 – August 2023
Payroll by (IT CAN Pte Ltd until Oct 2019)
ASP.NET MVC, WPF-MVVM, DevOps, Agile, Node.js & Angular.js, SQL 2016-19, F5 Windows Cluster

- OPAS a signature project developed by **NCS** (Application & Middleware) and **Synapxe** (Cloud infrastructure), has received numerous national and international awards (**WITSA**) and is widely adopted, with a 70% usage rate in the **Singapore healthcare system**.

- Led the implementation of the 'Outpatient Pharmacy Automation System' (OPAS) and 'Fastrak' systems at NHG, TTSH, NUH, and SGH. Responsibilities included designing, developing, and building healthcare solutions using Microsoft .NET, SQL Server, and Microsoft Azure, while adhering to an agile-scrum development model.

- The implementation of **OPAS significantly improved patient experience**, with 95% of wait times under 20 minutes, fewer than 3 medication errors per 10,000 prescriptions, and 65% of daily line items automated.

- Participated in the requirement analysis phase to evaluate the feasibility of functional specifications, identifying gaps, excessive development efforts, technical challenges, and potential issues, and communicated these findings to the business analysis teams.

- Developed backend **1Q SOAP WCF services** to interface with the ATT system and display queue numbers on Pharmacy KIOSKs, streamlining queue management and improving the patient registration experience.

- Engaged in code reviews and agile scrum meetings, performed root cause analysis, and implemented preventive actions to improve project quality. **Delivered status reports** to senior management to ensure timely completion of changes in alignment with the project and release schedule.

- **Developed unit test projects and POC's for each middleware component** (virtual ADM machines), including ROWA, PARATA, DDS, and RFD Shelves, to simulate inventory stock requests, responses, and drug dispensing in a UAT environment. This approach accelerated development and testing timelines by eliminating the need to wait for physical machines.

- Managed system changes through the established change request process and **enhanced application performance in the BI environment** by tuning code, reviewing tables, and applying indexes as needed to address application slowness and peak load issues.

- **Prepared project documentation** including Requirement Specifications, Use Case Specifications, test cases and plans, SOPs, data dictionaries, version control, migration standards, traceability matrices, and dashboards and reports for new change requests and existing systems.

- Assisted with integration testing, system testing, User Acceptance Testing (UAT), and implementation activities to **troubleshoot critical and high-severity issues,** ensuring smooth program execution in the production environment in accordance with the agreed Service Level Agreement (SLA).

- **Implemented a CI/CD pipeline** to continuously build, test, and deploy applications to staging environments. Managed application deployment in the production environment and ensured that the delivered applications met user expectations.

- **Wrote scripts and programs** for the CI/CD pipeline, Tectia file transfer, Server stats (CPU, Memory usage) extraction, service monitoring, and system health checks using PowerShell scripts.

- Recommended **software acquisition** and licensing by gathering necessary information from vendors, suggesting purchases for interfacing components, and testing and installing products such as Bartender, DevExpress, and SSL/SAN Certificates.

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EXPERIENCE SUMMARY continued

SENIOR SYSTEM ANALYST
iCrest Sdn Bhd, Malaysia / Jun 2013 – Feb 2016
Client: Western Digital (WD), Petaling Jaya, Malaysia
ASP.NET MVC Bootstrap 3.0, Waterfall, Rest API, WCF, WF, SQL 2012

- **Collaborated** effectively with **Staff Engineer and Business Analysts** to determine software requirements and system impacts.
- Participated in the **use case analysis, architecture designs and core modules development** of software utilities/tools used to help develop, validate, and support Western Digital disk drives, both SSD and HDD.
- **Migrated existing HDD PCS** (Product Configuration System) into highly scalable cutting edge firmware systems that are used set up all the business rules, demand to meet the production which will be used by the assembly line to build the drives using ASP.NET MVC + WCF + Bootstrap 3.0
- **Built REST based APIs** services for internal software development and external global team.
- **Developed web-based workflow software system** to govern new component releases for HVM builds It avoids down time or incidents of drives failing at backend due to incomplete component release readiness check (i.e. system setup, pipe cleaner completion) using ASP.NET, Workflow Foundation (WF), SQL.
- Integrated data storage solutions may include databases, key-value stores, blob stores, **Database optimization and fine-tuning.**
- Developed **interactive Business Intelligence Web application** using **Spotfire, SQL** for engineering analytics.
- Involved extensively defect Tracking, Regression testing, and system **Load Test.**

SENIOR SOFTWARE ENGINEER
Multimedia InfoTech Pvt Ltd, India / Apr 2012 – May 2013
ASP.NET C#, WCF, LINQ, SQL 2008 R2

- **Developed** dedicated **web application job portal** to assist students and recent graduates of MIT (Multimedia InfoTech) secure suitable and relevant employment by providing the resources prospective employers and potential employees need to share information effectively, including job matching and referral, employer and student database, comprehensive job listings, and email alerts of new vacancies
- Prepared Use Case diagrams, database designs, development Plans, deployment schedules
- Involved widely in GUI, Functional, Regression testing
- **Prepared reports** using SSRS on system usage and peak load performances

SOFTWARE ENGINEER
Hanodale Technologies Sdn Bhd, Malaysia / Mar 2009 – Mar 2012
ASP.NET C#, VB, jQuery, WCF, LINQ, SQL 2005

- Developed rich thick client and web-based database applications for global customers with a proven track record of **delivering cost-effective solutions** through innovative technologies in various domains
- Demonstrated **expertise in Application Development,** Web Development, Business Intelligence, Engineering, Retailing, Logistics and Healthcare-based IT services
- Prepared UAT documents, Functional Specification documents, Database Change Lists, User guides and FAQs
- Prepared **deployment packages and automation scripts** for monitoring system performance and daily system health checks

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SIGNATURE PROJECTS

National Healthcare Group (NHG) – Singapore
- OPAS
- Fastrak

MIT Corporate Job Portal

Hanodale Technologies Sdn Bhd
- Clinical Posting System – Masterskill University, Malaysia
- E@Works - Urusan Teknologi Wawasan Sdn. Bhd, Malaysia
- VistaPos (Vista Point of Sale)

Synapxe - ERP SAP
- TTSH Pharmacy Supply Chain System
- IMH Inventory Management System
- NUH Good Receipt System
- TTSH FLC Warehouse Management System

Western Digital - Global Manufacturing System
- Product Configuration System 3.5
- CoRe 3.5, EDMS
- T1111 Agility Workflow

TECHNICAL SKILLS

I aspire to a career as a **Software Engineer** in the IT Domain with precise knowledge in Content Management, Customer Relations Management, Document Management and Web Application Management. Up-to-date with changes in technology, as well as the business implications and applications of new technologies.

Microsoft Technologies	:	.NET 6.0 and above, .NET Core 3.1, MVC, MVVM, WCF, WPF, WF, ADO.Net, LINQ, Entity Framework, TFS, SharePoint
Project Management	:	DevOps (GIT, Azure, Jenkins, Docker, Dynatrace, fortify, SonarQube), Agile-Scrum, Kanban, Waterfall
Programming Languages	:	C#, Visual Basic, ASP.NET, C++, PowerShell script
Scripting Languages	:	Angular, Knockout JS, React, Vue.js, Bootstrap, jQuery, Node.js, HTML5, TypeScript
Design Pattern/ Design Tools	:	SOLID, CQRS- MediatR / Microsoft Visio
Database	:	SQL Server 2019 and Above, Oracle 11G, MS Access
Cloud computing	:	AWS, Microsoft Azure
Testing Tool	:	Selenium, Nunit, Moq, MS Test, JIRA
Internet Technologies	:	JSON, Web API, ODATA, WCF SOAP, Web Service, XML, TCP/IP Socket Model
Development IDE	:	Visual Studio 2019, Visual Studio Code, Cisco DevNet
Reporting/ ETL	:	Spotfire, Dundas BI, Telerik, SSRS, SSIS
Interfacing Middleware	:	Blister, DDS (Drug Dispensing system), DPAS, Tote Handler, ROWA, PARATA, RFID Shelves, Conveyor, Robot armatures, PTL (Pick-to-light), ATT Queuing System.
Load Balancer	:	F5 Networks GTM & LTM
Server Configuration	:	Windows Server 2013, Windows Cluster
Printing Tool	:	Seagull Bartender, Dev Express, Client Printing Signal R