Muruganandham Selvamani, Bangalore, India

Phone: +91 8973463947
Email: muruganandham.selvamani@gmail.com
Linkedin: https://www.linkedin.com/in/muruganandham1802/
Github: https://github.com/Muruganandham18
Portfolio: https://portfolio.sancloud.online/

Summary

I'm a results-driven Software Engineer who transforms complex challenges into innovative, automated solutions. With 6 years of hands-on experience and a strong foundation from Pondicherry University, I've architected event-driven systems—from insurance claim processing using AWS Lambda, API Gateway, SQS, SNS, and Terraform, to crafting agile commodity management tools with Django, jQuery, and Bootstrap 4. I excel in deploying high-capacity cloud environments and designing secure, resilient infrastructures, including virtualized setups with Proxmox, pfSense, and Docker for advanced network segmentation. My blend of backend mastery, full-stack insight, and leadership in CI/CD and disaster recovery makes me your team's catalyst to drive breakthrough innovation and efficiency.

Skills

+Programming Language: Python, JavaScript, C#

+Experienced Frameworks and Packages: Django, Asynio, pandas, ReactJs, Terraform, Jquery, Celery, Redis, Rabbitmq, Python multiprocessing(concurrent), MultiThreading, RPi, Flask, Flower and Html & CSS

+Basic Known Packages: AngularJs, Numpy, shell scripting.

+GitOps: Terraform (TFE workspace and Scalr) CI/CD (GitLab Pipeline, GitHub Actions)

+Known Operating System: Linux (Ubuntu, Kali-Linux, Raspian-pixel), Windows,macOS.

+Software: VSCode, PgAdmin, Excel, Adobe Photoshop, Adobe Premiere pro.

+Database: PostgreSQL, MYSQL, MongoDB

+Version Control: Git (Github, GitLab)

+Cloud Computing: AWS EC2, AWS RDS, AWS Lambda and Bare Metal VPS, Digital Ocean

Technical Experience

Senior Software Engineer: **2022-present**

Accenture
Role: Backend Architect and Application Developer for **event-driven Applications**. Major programming in Python for Application and **Terraform** for managing the **AWS** Resources.
Type: Office

Python Developer: **2019-2022**

InESS Solutions
Role: Full Stack Developer with **Python**(Django, pandas, Django ORM), **Python Trainer**, server admin along with leading the project for a Commodity management tool and Deploying new applications in server and managing server in AWS
Type: Office

Developer: **2018-2019**

Role: Created **websites** for businesses, Support application thought bot(s) and **electronic automation**.
type: Freelancer(College internship)

Self-Hosted Infrastructure Engineer & Security Enthusiast:

Role: Designed and deployed a **Proxmox-based** home lab, integrating **pfSense, Docker, and VLANs** for network security and automation, IoT-based Home Automation(HomeAssiatant).
Type: Hobby

Projects

TITLE: Event-Driven Claim Handling Application
DESCRIPTION: Developed backend for an Insurance Client to Verify the coverage of the claim (As per Non-disclosure agreements can't explain it in detail)
Team Size: 4-dev 1 -functional 1-tester 2-UI/UX
Level: Advanced
ROLE: Architect and Backend Design Engineer
Contribution:

- **Designed Scalable Backend Architecture**: Developed an event-driven system using AWS Lambda, API Gateway, SQS, and SNS, ensuring seamless integration and efficient processing.
- **Infrastructure as Code (IaC)**: Implemented Terraform to manage AWS infrastructure, eliminating manual configurations and enhancing scalability, consistency, and automation.
- **CI/CD Pipeline for Terraform**: Built and optimised Terraform CI/CD pipelines to automate infrastructure deployments, enforce security policies, and integrate scans for compliance.
- **Disaster Recovery Implementation**: Designed and deployed AWS disaster recovery solutions, incorporating automated failover, cross-region replication, and backup strategies to ensure business continuity.

Location: Accenture, Bangalore
Major Package and Framework Used: AWS API Gateway, Lambda, SQS, SNS, ELB, EC2, S3, RDS Postgresql, Terraform, Haricorp Vault, CI/CD pipeline and Python programming for the Low-level logic on Lambda processor.

TITLE: Commodity Management Tool
DESCRIPTION: The project was developed for a server Manufacturer to procure the parts from 1000(s) of manufacturers around the globe, we designed to get the quote from the manufacturers and apply our logic to get the parts for a low price with low-risk profiled suppliers for solo source and multi-source part(s).
Team Size: 2-dev 2-functional 1-tester
Level: Advanced
ROLE: Technical Project Leader
Contribution:

- **Business Logic Design**: Developed and optimised business logic for all modules using Django ORM.
- **Frontend Development**: Created a responsive UI/UX using jQuery and Bootstrap 4.
- **Email Automation**: Implemented SMTP for automated supplier quote requests and IMAP4 for handling incoming supplier responses.
- **Real-time Notifications**: Integrated browser notifications to enhance user engagement.
- **Analytical Dashboard**: Designed and developed a dashboard for data insights and reporting.
- **Mentorship & Best Practices**: Guided junior developers in implementing industry best practices for efficient development.

Location: InEss Global Solutions, Bangalore
Major Package and Framework Used: Django, Python, C#, PostgreSQL, Jquery, Celery (To Handle task in concurrently) and Apache2

TITLE: Home Lab Virtualization and Network Segmentation Project
DESCRIPTION: Designed and implemented a comprehensive home lab environment using Proxmox, integrating multiple virtualized services such as pfSense for firewall and network management, Home Assistant for smart home automation, and Docker containers for applications like music streaming and photo backups. Established a secure, segmented network architecture to isolate IoT devices from user devices, enhancing security and performance.
Team Size: Individual Project
Level: Advanced
ROLE: System Architect and Network Engineer
Contribution:

- **Architected and Deployed Virtualized Infrastructure**: Designed and implemented a Proxmox-based virtualization setup to manage workloads efficiently.
- **Network Security and Segmentation**: Configured pfSense with advanced firewall rules and network segmentation to enhance security and control traffic flow.
- **Containerized Application Management**: Deployed and managed Docker containers for various applications, ensuring efficient resource utilization.
- **IoT Network Isolation**: Implemented a dedicated network for IoT devices to enhance security and optimise resource allocation.
- **Automated Network and Service Configurations**: Streamlined management and scalability by automating network and service setups.

Type: Hobby Project
Major Package and Framework Used: Proxmox VE, pfSense, Docker, Home Assistant, VLANs, Network Segmentation, Python for automation scripts, and various Docker images for application deployment.

TITLE: High-Performance HTTP & HTTPS Proxy Server
DESCRIPTION: Developed an optimized HTTP and HTTPS proxy server using C#, focusing on security, logging, and authentication. This proxy enables real-time traffic monitoring, debugging, and access control, making it an essential tool for developers, network engineers, and cybersecurity enthusiasts. It supports URL logging, authentication via environment variables, and containerized deployment using Docker for seamless cross-platform execution.
Team Size: Individual Project
Level: Advanced
ROLE: Full-Stack Developer & Network Engineer

Contribution & Key Features:

- **Optimized Proxy Handling:** Implemented an efficient request interception mechanism for handling both HTTP & HTTPS traffic with minimal latency.
- **Advanced Logging System:** Captures and logs accessed URLs in real-time, displaying them in the terminal and persisting them in log files.
- **Secure Authentication:** Integrated environment-variable-based authentication, ensuring secure proxy access.
- **Containerized Deployment:** Designed a Dockerized solution for easy deployment across different environments.
- **Performance & Scalability:** Fine-tuned the proxy for high-speed request handling while maintaining low resource usage.

Use Cases:

- **Cybersecurity & Monitoring:** Track and log outgoing requests for auditing and security analysis.
- **Development & Debugging:** Inspect HTTP/HTTPS requests for testing and debugging applications.
- **Access Control:** Restrict traffic to specific domains for network security.
- **Privacy & Anonymization:** Route traffic through a proxy to protect user identity.

Type: Hobby/Personal Project
Major Technologies Used: C#, .NET 9, Docker, Logging Frameworks, Environment Variables for authentication.

Education

Bachelor of Technology: Electronics and Communication Engineering **2015-2019**
PKIET-Karaikal, Pondicherry University
CGPA: 7.02/10
Relevant Coursework: Digital circuits, Wireless Communication, Circuit Analysis, Microprocessor and Digital Communication.

Person Details

Date of Birth	:	February 18, 1998
Gender	:	Male
Nationality	:	Indian
Hobby	:	Experimenting with My HomeLab and Electronic Projects
Languages Known	:	English, Hindi and Tamil