ANNAMALAI ARUMUGAM

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Portfolio - annamalaiportfolidev.web.app, **(Graduating May 2024)**

EDUCATION:

Master's in Computer Science **(Aug 2022- May 2024)** Cal State University, Fullerton, CA
Bachelor's in Information Technology **(Jun 2012 - Jun 2016)** SASTRA University, India

WORK EXPERIENCE

Senior Software Developer, Viasat Inc - Chennai, India 08/2019 - 08/2022

- Designed a new VxLan network for Dynamic service chaining for network control plane components using openvswitch ovsvsctl, after DSC latency reduced to 2-3 minutes from 1-2 hours of new device deployment.
- Developed Advanced Confidentiality security module which secures the WIMAX packets consists of secured and user profile information.
- Designed WiFi Booster software architecture using Qualcomm SON stack for Viasat Gateway terminal devices to repeat WIFI signal and enhance signal strength of up to 2x speed.
- Created a plugin for Ground systems to get deployed as VM in Viastack environment using KVM/QEMU hypervisor in 64 core CPU host machines using existing Qcow2 images and enabled online monitoring - Saved Cloud cost up to 5k USD per month.

Software Developer, Viasat Inc - Chennai India 01/2018 - 07/2019

- Automated the Viastack Cloud components deployments in single deployment job using ansible and boto3 api - Resulted in faster 5x times and saved deployment time than the previous incremental deployment model.
- Developed RBAC API and User access requests API calls for ViaStack Cloud system - Saved RBAC manual verification processes.
- Invented a POC using Kubernetes and Docker to initiate active-active RabbitMQ clustering and containerizing brokers for efficient scaling and management - Scaled the system's ability to handle up to 10k concurrent requests in under 300ms.

Associate Software Developer, Genesys Telecom Labs - Chennai, India 06/2016 - 12/2017

- Using SDK toolkit to create customized softphones for contact centre agents, Developed new web softphones based on given requirements using SIP Protocol and WEBRTC packages - More than 10k+ contact centre agents using these softphones and solving customer requests.
- Worked with Genesys Composer IVR development software and designed custom call routes - Reduced call centre calls upto 1.5 times.
- Spearheaded IVR strategy design tool that is built on JAVA and .NET. Part of the tool team and designed several IVR flows for production. Increased business by up to 20k$ per year.

Application Developer Intern, Vmware Inc, Bangalore, India 01/2016 - 06/2016

- Created a machine learning and artificial intelligence tool to predict future IT ticket escalation based on finding historical patterns.
- Built the model with Java and the ENCOG ML framework along with Weka as the data analysis tool, Applied SMOTE and Random Forest algorithms to the current dataset using the MLP neural network.
- Sketched a UI/UX interface for the machine learning model using JSPs, servlets, Angular and the Spring MVC framework to display the predicted data.
- The final plugin was added to the VMware IT support desk portal to predict customer tickets and saved up to 10K escalations which are extensively used by business teams.

- **Technical Skills: Programming Languages**: C, C++, Python, Java. **Web Frameworks:** MEAN stack, Angular, Python, Grafana, ExpressJS, ReactJs, Django, Flask, Angular,Nginx, Apache. **Cloud Tools:** KVM, QEMU, AWS, Terraform, Docker, Kubernetes.**Devops Tools:** Ansible, CUCUMBER, ROBOT, Jenkins, Chef, GIT. **Other Frameworks:** SIP Server, Encog, MQTT, Chatgpt Open AI. **DataBases**: AWS RDBMS, Mongo, MySQL.

Master's Academic Activity: Independent Graduate Researcher 08/2022 – 12/2023

- Working on Chatbot for university ECS department using openAI and ease of freshman onboarding, This Bot will be using existing iTuffy data and existing links available in the landing page.
- Under Guidance from Professor Dr Goffman and the Digiclips product team implemented video-to-text recognition in the TV backend module of the digiclips product.
- Utilized FFMPEG video recording adapters, Mysql and Docker containers to convert the recorded conversation to text which is useful for their clients for legal purposes - Increased Digiclips sales up to 20K$.

AWARDS & CERTIFICATIONS:

- **AWS Certified Engineer • Elite NPTEL Certified Programmer • Plural sight certified Machine Learning Engineer.**
- **Viasat 2020 All India hackathon winner**