Akshay Arun Prabhu

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# EDUCATION

* **University of Southern California**, Los Angeles, CA August 2018 - May 2020 **Master of Science, Computer Science GPA: 3.48/4 Coursework:** Analysis of Algorithms, Foundations of Artificial Intelligence, Database Systems, Operating

Systems, Natural Language Processing, Web Technologies, Mobile Social games.

* **The National Institute of Engineering**, Mysore, India August 2011 - June 2015 **Bachelor of Engineering, Information Science GPA: 8.98/10 Coursework:** Data Structures, Analysis and design of Algorithm, Databases, Operating System, Computer

Networks, Cloud Computing, Object Oriented Analysis and Design, Web Technologies, Finite Automata and formal language.

# SKILLS

**Programming Languages** : C, Java, Python, JavaScript, HTML, CSS, SQL, Angular, Node JS, Expect Scripting, .

**Tools, IDEs and DBMS** : Eclipse, PyCharm, MySQL, Oracle, GIT, Jira, Jira Service Desk, Adobe Experience Manager, Packet Tracer, Wireshark, DynamoDB, AWS Lambda and CloudFormation.

**Methodologies** : Agile, Scrum, Iterative, Test-driven Development.

# PROFESSIONAL EXPERIENCE

**Software Application Developer | iTrending Solutions LLC** Jul 2021 – May 2023

* Built an Emergency application which allows the team create incidents such as forest fire or flood using content fragment, created custom fields to prompt confirmation to send alert when selected ‘yes’ in addition to fields provided by Adobe Enterprise Management. The servlets, services and models are used to read, process and propagate the incident data to front end UI to be displayed. Built the event handlers which detects the incident creation and process the data, another event handler which detects the publishing of the incident and calls an AWS lambda to send the alert if the Send alert field was selected ‘yes’.
* Worked on creating and maintaining web form which process the data entered by users, make API to get the data or update the database and display the data using data tables,
* Handle user and group permissions for different users through the UI provided by AEM.
* Converted the AEM permissions to jcr privileges and saved it in the OSGI configurations, so the user permissions can be managed and installed through the code check in rather than UI.
* Created schedulers to periodically read the Air Quality sensor data and update the repository in AEM to process and display it on the web page.
* Worked on migrating the from AEM 6.3 to AEM 6.5 in AWS environment by installing all the prerequired tools and software, linking S3 to AEM so all the assets are stored in S3, creating new System users required for the resource resolvers, installing ACLs to configure user authorizations and use same user ID and password as in AEM 6.3.
* Debugged errors in a spring based application hosted in Microsoft azure that had services to query a database and return medical examiners records for San Diego County in JSON format.

**Software Developement Engineer | Redleaf IT Systems** October 2020 – July 2021

* Design, develop, test and deploy web pages on Adobe Experience Manager.
* Used Jenkins as build tool and used service now to track the bugs, issues and project management.
* Implemented Adobe AEM templates, components, workflow models and process, schedulers, listeners, servlets, tagging and perform CMS administration tasks.
* Created AEM templates and page components with custom dialogs.
* Worked on Multi Site Manager (MSM) to develop live copy from blueprint, such that the structure and content can then be used on the Live Copy.

## Software Development Engineer Intern| Amazon Alexa Machine Learning Platform Services May 2019 – July 2019

* Worked on backend that took input in the form of JSON, maintain a repository to store this input, built an AWS lambda function to convert this input into a graph (Workflow) and feed it into the workflow- orchestration engine HERD.
* Use Amazon Leadership Principles to assess the situation and take decisions.

**Software Engineer | Ip Infusion** October 2015 – July 2018

* Implement new features, enhance existing features and fix defects in Data link layer protocols and host protocols to improve product quality.
* Created tools for ZebOS Management (ZEBM) which builds management systems for switches and routers.
* Mentored new recruits in team by knowledge transfer about architecture of product, tools used and Linux environment.
* Was a scrum master for the team and facilitates all the communication and collaboration between leadership and team players to ensure a successful outcome.

**Associate Software Engineer Intern | Ip Infusion** July 2015 - October 2015

* Devised test cases, design and build topology, record and analyze results and report bugs.
* Developed test scripts to automate testing of bugs discovered during unit testing or by customers.

# PROJECTS

## Intelligent Resource Utilization (Java)

An AI algorithm designed to optimize resource utilization to maximize profits of the system. For the large- scale application, alpha beta pruning has been incorporated to optimize the running time.

## Reinforcement Learning (Java)

An intelligent program to find the optimal path to the destination given a matrix (Created from the input in terms of monsters, pits and goal point). The self-learning algorithm was designed to handle obstructions to find the best value path iteratively using Reinforcement learning.

## Multithreading- Token Bucket Emulation (C)

Implemented a time driven simulation of token generation and consumption by coordinating between 3 parallel running threads using mutexes, condition variables and UNIX signals belonging to pthreads library and C programming.

## Weenix Kernel (C)

Implemented the Process and Thread to make the kernel run several threads concurrently, a VFS to provide a common interface between OS kernel and process-file system on-disk files through S5FS file system and a Virtual Memory including memory maps, page fault handler, memory management to manage user address space and system calls.

## Hotel Review Classification (Python)

Implemented a Naïve Bayes classifier to identify hotel review as either truthful or deceptive, and either positive or negative with an accuracy of 88%, using the word tokens as features for classification.

## Part of Speech Tagger (Python)

A Viterbi algorithm Trigram Hidden Markov Model POS Tagger that assigns part-of-speech marker to each word in the Italian and Japanese input text with a 93% accuracy. The decoder of the model is the trigram Viterbi algorithm.

## Multi-VRF support (C)

Designed and enhanced existing Host protocols like SSH, Telnet, Network Time Protocol, Simple Network

Management Protocol (SNMP) to run independently on multiple VRF’s at same time.

## Data Link Layer Protocols(C):

Fixed several bugs, implemented new features and enhanced existing features in STP, RPVST, port mirroring and few other protocols.

# PERSONAL INFORMATION

## 1. Name: Akshay Arun Prabhu

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1. **Date of Birth: 22 / 03 / 1993**

## Languages Spoken: English, Hindi, Kannada and Konkani.