Saiadithya Cumbulam Thangaraj

sai.cumbulam@umbc.edu

240-643-1780

**AREAS OF EXPERTISE**

|  |  |
| --- | --- |
| Programming Languages | Python, Shell scripting, Javascript , C++, R, Java, Mainframes , Tcl/TK, HTML, PHP, CSS, LATEX, Lisp |
| Databases | MYSQL, MongoDB, SQLite, PL/SQL |
| Version control system | Git, Fossil, Service Now, CHGMAN |
| Cloud computing Services | AWS (Amazon web services), Heroku |
| Data analytics tool | Statistica, Weka, SAS, IBM System T, Knime, Tableau |
| Platforms | Linux: Debian and Yum based systems, Apache Spark |
| Domain | Healthcare (HIPAA), Banking, Ecommerce |
| Python packages | Numpy, Scipy, Scikit learn, Collections, threading, socket, NLTK, Re, scrapy, beautiful soup, Ipython, Matplotlib, Tkinter |
| Methodologies | Agile, Waterfall, UML, SDLC and Scrum |
| Other | Emacs |

**P R O F E S S I O N A L E X P E R I E N C E**

**Research Python developer Jun 2016 – May 2017**

**Department of Health and Mental Hygiene (Health IT Lab UMBC), United States**

# Directly Accountable for all facets of programming and Data analytics solution.

**Responsibilities:**

* Designed and implemented Automatic fraud detection tool using Python integrated with SQLite.
* Developed Data Cleaning Toolkit for cleaning the non-standardized, missing.
* Specialized in multithreading and map-reduce algorithms to process big data effectively.
* Developed data browser for SQLite for easy manipulation of database using Flask framework.
* Developed Rest-API in Flask to fetch geolocations data for carrying out geographical fraud analysis.
* Implemented Sentiment analysis in python to identify satisfaction of Medicaid services for patients.
* Developed Geographical heat maps to identify hot spots where Medicaid frauds are taking place.
* Created GUI models for the toolkits using Python-Tkinter and Tcl/ TK programming.
* Developed C++ wrappers for integrating Google Re2 with Tcl.
* Embedded Python and R with Tcl to make a more powerful integrated language.
* Implemented Cluster analysis, classification algorithm using Spark Mlib and worked in manipulating RDD.
* Implemented Spline models, null hypothesis, and statistical outlier analysis in R.
* Developed and implemented statistical models using R.
* Proficient in carrying out Descriptive and Explanatory analysis in large data sets and getting insights on the data.
* Proficient in usage of Pandas, Numpy and Sckikit learn for Statistical Analysis using Python.
* Experienced in Functional programming and object-oriented programming.
* Promoted the use of Literate programming using Jupyter notebooks and Emacs for better code readability and code maintenance.

**Python Developer Nov 2011 – Jul 2015**

**Tata Consultancy Services, India**

# Worked as a Technical lead for Python Dev-ops team.

**Responsibilities:**

* Automating infrastructure, automating workflows, and continuously monitoring application performance, automate code testing.
* Automated Incident creation, update, and deletion for Service Now configuration management system.
* Developed Web scraping scripts to extract customer reviews from Citi bank Rewards website and storing it in Mongo DB.
* Data parsing to desired format requested by the clients.
* Designed and developed Email client REST API for advanced search options.
* Create Python packages for implementing reusable codes.
* Modified SQL queries to improve performance of database.
* Download various files from FTP servers.
* Automated the monitoring for mainframe job failures and schedule alert with python.
* Analyzed customer delinquency status and compute their interest rates.
* Automated routine infrastructure tasks including ﬁle manipulation, code style checks and code reviews.
* Extract customer account details from large account master files.
* Checked and identifying discrepancies in customers account data against large business rules.
* Utilized PyUnit, and Doctest for all Python applications.
* Scheduled and automated incident summary report using Matplotlib.
* Experience working with python integrated with MySQL and MongoDB.
* Skilled in using collections in python for manipulating and looping through different user defined objects.
* Experienced in Agile Methodologies, software development life cycle and deployment methodologies.

**Linux System Administrator Jan 2016 – Jun 2016**

**UMBC, United states**

# Worked as Debian System administrator

**Responsibilities:**

* Engineered the creation of Two Tier Client-server model using DHCP and LDAP.
* Mastered in Python Network Programming. Used python to get the status of the clients and the server.
* Managed S3 storage space with Amazon Web services (AWS) using python
* Created Virtual machine instance and snapshots in AWS using python
* Experience in configuring firewall between server and the clients.
* Installed and conﬁgured infrastructure monitoring and reporting tools like Syslog-ng, NTP, Duplicity, UFW.
* Implemented triple authentication password feature using Google and PAM authentication.
* Troubleshoot unexpected network, clients and server issues.
* Automated Linux system maintenance tasks using shell scripts.
* Established Dashboard panel for system stats using Django and Javascript.

**Research Publications:**

* Automated Fraud Detection in Homecare Reimbursed-Medicaid Claims. MNCHA 2016 Conference, Sep 2016.
* Label Propagation in Big Data to detect Trojan virus, IEEE Big data conference, Mar 2016.
* Economic Benefits of Electronic claim processing system, Sini Poster Conference, 2017
* Scenario Based approach for Fraud detection, Thesis, May 2017

**Academic Projects:**

* Designed Backpropogation neural network to predict car prices
* Natural language processing to analyze and identify the reason for shipment delay for Amazon customers.

**Education:**

* MS information systems – University of Maryland Baltimore County GPA: 3.855
* BE Electrical and Electronics - Sri Sairam Engineering college GPA: 3.8