**MANIKANTHA SHARATH TUNUGUNTLA**

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**Summary:**

* **7+** years of experience in system level programming in **python and C++** in Linux environment and knowledgeable in **Django.**
* Strong Python scripting developer with knowledge of infrastructure automation (like Mongo DB and creating Oracle Schema).
* Solid utilization of laboratory standards and methods.
* Experience with TDD and ability to write quality unit tests.
* Understanding of software design patterns, SLDC, Test Driven Developments (TDD), Continuous Integration and Delivery.
* Knowledgeable in building sever-side RESTful web applications, APIs and automation tools.
  + Experience with automation/configuration management using tools like Ansible, Puppet.
* Working knowledge of Unix / Linux systems, utilities, and scripting.
* Hands on experience in Real Time Operating Systems (VxWorks preferred).
* Proficient in understanding versioning tools, such as **Git / SVN, Github.**
* Experience working with commercial test automation tools (Squish).
* Efficient in using Python packages like **numpy, scipy, pandas, matplotlib, seaborn, scikit-learn, Tensorflow, keras, scrapy.**
* Detail-oriented, result-driven, Self-motivated, dedicated and very good team player with excellent communications skills including mentoring and presentation skills.

**Technical Skills:**

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| *LANGUAGES:* | C/C++, Python, Ruby, MATLAB. |
| *IDE:* | ROS, Visual studio, Netbeans, Anaconda, Spyder, RubyMine. |
| *WEB TECHNOLOGIES:* | XML, HTML5, Django. |
| *OPERATING SYSTEMS:* | Windows XP/7, Ubuntu(Linux), Mac. |
| *SOURCE CONTROL*: | Sub-Version (SVN),CVS/PVS and Git, GitHub**.** |
| *AUTOMATION MANAGEMENT:* | Ansible, Puppet. |

**Professional Experience:**

*Full stack Python Developer (LF Labs) (JUN’17 – APR’18)*

*Fremont, CA*

* Collaboration with leads, developers, and designers to create and maintain back-end architectures for highly-trafficked applications and build new features.
* Designed data structures and the services that use them for debug development and production issues across multiple services and work towards improving code quality, internal tools/processes, and documentation.
* Building APIs and write high quality, server-side code (using **Python**, but also languages like **Ruby** or JavaScript/Node.js) thoughtfully design forward-thinking, scalable, and performant data architectures
* Have used both **SQL** and **NoSQL databases**
* Independently debug a complicated problem, and done so regularly
* Established testing goals and priorities with a small team of testers in conducting testing on major portions of the product.
* Worked cross-functionally on product design and requirements reviews.
* Implemented the complex solutions with minimal technical debt anddeveloped solutions that are easy to deploy, maintain, and are bug free.
* Participating fully in the development process through the entire software lifecycle.

*Python Developer (Aptiv) (JUL’16 – JUN’17)*

*Malibu, CA*

* The work involved the development of workflows triggered by events from other systems.
* Developing easy to use documentation for the frameworks and tools developed for adaption by other teams.
* Worked with **Python, MySQL, MongoDB, Message Queues** and other scripting languages to develop features like applications related to automotive data logging and telematics, live data streaming, analytics.
* Developed and implemented acceptance test plans to ensure that product meets customer requirementsand also troubleshoot and resolved issues with production software.
* Assisted in the development of a statement of requirements for software development projects by conferring with systems analysts, engineers, developers, and others to design system and to obtain information on project limitations and capabilities, performance requirements, and interfaces.
* Developing and directing software system testing and validation procedures, programming, and documentation and maintaining customer/internal data creation standards.
* Designing and code highly scalable, machine learning applications processing large volumes of data with Python and R.
* Follow agile processes with a focus on delivering production-ready testable code in small iterations.
* Participate in the entire development lifecycle, from concept to release.
* Provided tests to support code, contributing to testing strategies and providedhigh-quality user training documentation.
* Worked closely with other teams to create comprehensive test tools and automation frameworks
* Followed and improvedthe established processes for software development life cycle with an agile approach to delivery software.

*Python/Django Developer(Innominds software Ltd.,) (AUG’14 – FEB’16*)

*Bengaluru, Karnataka,India*

* Assisted in the development, strategy, and planning of projects in platforms.
* Launching multiple platforms and oversee the transition while maintaining operational status.
* Worked with teammates and managers to create a collaborative environment and share great ideas.
* Built innovative websites and platforms using Django framework, REST framework, and templating.
* Experience building products and leveraging experimentation to learn and iterate quickly, ideally driving specific metrics.
* Iterative development, and designed robustness, longevity, and extensibility across releases.
* Maintaining high level of communications with cross-functional team, vendors, and clients.
* Defining and implementation of existing test tool interface protocol and server-client communication protocol.
* Developed Windows and/or Linux application to access peripherals through USB, UART, or Ethernet.
* Developed a proper Python wrapper of test tools’ API to interface with automation system.

*Junior Python/Neural NetworkDeveloper (Front Line Solutions) (SEPT’13 – APR’14)*

*Kochi, Kerala, India*

* Worked in a team focused on developing and testing machine learning algorithms for speech recognition using **Convolution neural network** and **recurrent neural network.**
* Associated with the team in charge of designing electronic systems for embedded devices, like wearable devices incorporating custom environmental detectors, accelerometers and other MEMS sensors and learnt about building, testing and validating board-level electronics for embedded devices (e.g. hub devices and associated electronic displays).
* Developed firmware for embedded devices like embedded displays (e.g., OLED, e-Ink, etc.) and general supervisory control/management using C++.
* Maintaining research firmware development tools/applications and quality control software.
* Used SAS Environment along with Windows- Editor, Output, Log, project window.

*Junior Python/Django Developer (Happay-Expense Management Solutions) (Aug’12 – Sept’13)*

*Bengaluru, Karnataka, India*

* Used B2B platform and applications include the core back-end platform serving all the B2B channels such as Web, Mobile-web, and App. customer-centric platforms with integrations into salesforce and other mid-office workflows.
* Use of various technologies and being able to come up with the solution to address the problem at hand and competent in **Python**
* Good understanding of network stacks and usage of MySQL
* Came up with a strong and clear architecture based on the requirements from the team and presenting complex technical information in a clear and concise manner to a variety of audiences.
* Worked in a team of engineers in a product-driven organization and developed and scaled microservices.

*POWER SYSTEMS INTERN (APGenco) (APR’11 – JUL’11)*

*Vijayawada, Andhra Pradesh, India*

* Analyze issues related to the production of Power at APGenco.
* Analyze a variety of data sets that relate to the pricing and analysis of power.
* Build excel based models and computational tools to support the Power Supply staff.
* Help define problems and analyze various options for a best solution with support staff employed at the sub-station for transmission of power generated from the power plant to step-down sub stations
* Retrieve data from web-based applications and develop basic power point presentations.

**Projects:**

*POISSION IMAGE EDITING (Python and OpenCV)*

* Creates a blended image that is partially cloned from the source image and flatten the texture of an image (or of a selected region of an image) based on the Poisson equation.

*NEURAL NETWORK BASED REINFORCED LEARNING (PYTHON)*

* Implements an agent that uses a neural network-based reinforcement learning scheme to learn to navigate in an unstructured environment.
* In a 2D grid representation of a current robot's state created by user, the robot learns move on its own. (At every step, the robot chooses one of these eight actions, and carries it out if the selected action is valid).
* This goal is achieved by training a neural network that takes a current robot's state as an input and then outputs an eight-dimensional vector corresponding to the likelihood of each of the eight actions and after every selected action, the robot needs to get a reward to learn whether that action was worth making or not using "Deep Q-learning Algorithm".

*CONTROLLER FOR JERBOA ROBOT (MATLAB)*

The goal is to develop a simulation, along with the necessary control actions for its motion. The objective is to achieve a forward speed of 0.8 m/s and retain it. This is achieved by

* Using the equations of motion to write the functions of EOMFlight and EOMStance, and event functions EventTouchdown and EventLiftOff, corresponding to leg touchdown and liftoff.
* By implementing the stance phase controller for both the hip actuator and the tail actuator as described in EOMStance.
* By implement the flight phase controller for the tail actuator as described in EOMFlight and implement Raibert's stepping controller