# Jayant Solanki

50 Heath St., Buffalo, NY 14214 | 716.427.8428 | jayantso@buffalo.edu
LinkedIn: jayantsolanki | GitHub: jayantsolanki | Homepage: jayantsolanki.com

## OBJECTIVE

Proven prowess to guide and manage wide variety of design and development projects in team and independent circumstances. Four years of practical experience in building solutions for challenges in Embedded Systems. Proficient in designing and developing systems capable of synergizing the power of Machine Learning, Web and Computer Vision.

## EDUCATION

**University at Buffalo, NY** MS in Computer Science | GPA 3.5 Aug 2017 — Feb 2019
**University of Allahabad, India** B.Tech in Computer Science | GPA 3.5 Aug 2010 — May 2015
***Relevant Courses**:* Data Intensive Computing, Statistics, Pattern Recognition, Numerical Analysis, Parallel Programming

## SKILLS & ABILITIES

***Libraries*:** JQuery, Symfony, scikit-learn, ggplot2, D3.js, mapdata, PYPDF2, openMP, OpenCV2, Numpy, pyspark, Pandas
***Languages*:** PHP, MySQL, JavaScript, HTML/CSS, Core Java (HP certified), Python, R, MATLAB, Octave, SAS, Scala
***Frameworks*:** Tornado, SQLAlchemy, Apache Server, Apache Spark, Hadoop, Git, ThingSpeak, Laravel, Bootstrap, node.js, Angular, WebSocket, TensorFlow, Latex, Jupyter, IoT, Linux, MQTT, npm, composer, LAMP, RESTful API

## WORK EXPERIENCE

**Statistical Programming Intern** — *Pharmacyclics, Sunnyvale - CA* June 2018 — Aug 2018
***Tech stack:*** Python, SAS, MySQL and MS Excel
- Reduced thousands of clicks to just two clicks for fixing deviations in different define.pdf files for FDA submission
- Leveraged MySQL repository for editing Excel spreadsheets and created mechanism for performing audits
- Chosen from 44 Interns to present the PDF-Editor tool project used for correcting define.pdf files, at Coder's Corner event

**Graduate Research Assistant** — *University at Buffalo, Buffalo - NY* Nov 2017 — May 2018
***Tech stack:*** Python and APM planner
- Revamped modules for current measurement, logging and visualization to perform energy profiling for Drone

**Senior Project Technical Assistant** — *Indian Institute of Technology - Bombay* July 2015 — May 2017
***Tech stack:*** Laravel, MySQL, JavaScript, Python, openCV2, Numpy, Embedded C, node.js, AngularJS, Bluetooth
- Architected open-source model for the Greenhouse Automation, later inducted into Urban Farming Setup initiative
- Co-developed websites for different initiatives of e-Yantra and managed three of its important initiatives
- Built and deployed the Online Selection Test, taken by 40000 students and automated the result generation process
- Administered Rackspace Server, Amazon Mail Service, GitHub repositories and Teaching Assistant for CS 308
- Conceived project based theme, mentored and evaluated over 600 participants in Robotics competition
- Oversaw Summer Internship program at e-Yantra, interviewed applicants, mentored Interns and managed programs

**Summer Intern at ERTS Lab** — *Indian Institute of Technology - Bombay* May 2015 — July 2015
***Tech stack:*** PHP, Blueprint CSS, node.js, phpMQTT, MySQL, JavaScript, ESP8266, Lua, nodemcu
- Built UX interface and API calls in PHP for handling real-time MQTT messages in controlling irrigation valves

## KEY PROJECTS

**Scalable Test-beds using IoT for Sustainable Urban Farming (GitHub1, GitHub2)**
- Engineered Greenhouse distributed automation system capable of auto-discovering and controlling irrigation valves
- Created closed loop system with react system, valve scheduler, sensor data visualizer and health monitor using node.js
- Designed UX interface based on AngularJS/bootstrap and back-end in PHP and MySQL

**Automated Difficulty prediction for Online Exam** *(Laravel, Python, MySQL, Tornado, RESTful API)* **(GitHub1, GitHub2)**
- Incorporated Machine Learning algorithm to create a Robust Questions Analysis app with Question editor

**Cryptocurrency Trading Visualizer** *(Python Tornado, WebSocket, MySQL, Angular 4)* **(GitHub1, GitHub2)**
- Designed a back-end framework for relaying High Speed Cryptocurrency trading data to a Front-end website

**Cross a Crater Autonomous Robot project** *(Python, OpenCV, Embedded C and scikit-learn)* **(Video)**
- Led a team of 3 in design and development of an autonomous cavity filling robot which builds a path during navigation

**CareTaker Autonomous Robot for Hospital - won 1st position** *(Python, OpenCV2, Numpy, Embedded C)* **(GitHub, Video)**
- Developed a Real-time Sensing Robot to provide provisions for patients with the help of Zigbee wireless protocol

**Seed Sowing Robot for Greenhouse Automation** *(Embedded C)* **(GitHub, Video)**
- Built a prototype Robot with seed dispenser for dropping arbitrary numbers of Seeds into the differently placed holes

**Trending Topics using NYTimes/Twitter Data Aggregation** *(Python, Hadoop - MapReduce and D3.js)* **(GitHub)**

- Created text corpuses using NYTimes/Twitter API and built a Web app for visualizing word clouds

**Distributed Group Messenger with Fault Tolerance** *(Android, SQLite, WebSocket)*

- Leveraged Amazon Dynamo and DHT concepts to build a messenger providing Linearizability and Availability

**Parallel processing of Gigasize Dataset** *(Apache Spark, openMP, Hadoop, Scala, C++)* (**GitHub1**, **GitHub2)**

- Applied pointer jumping technique and Message Passing Interface to compute connected components of distributed graphs

**Data Analytics through Pipelining** *(Python, NLTK and Apache Spark)* **(GitHub)**

- Performed Multi-Class classification on text corpuses collected from NYTimes articles using pyspark

**Findaloo Android Application** — **Sponsored by Bombay Municipal Corporation** *(Laravel/JWT, MySQL)* **(GitHub)**

- Developed back-end framework to facilitate public restroom searches, check-ins and ratings on map

**Online Picture Puzzle for Cultural Fest at University of Allahabad** *(PHP, Blueprint CSS, MySQL)*

- Built Picture Puzzle Solving website with features for profile management, score tracking, and user moderation

**My FabDiet** — **won 1st Place at Brick Hack 4** *(Android, node.js, Restful API, and Angular 2)* **(Devpost)**

- Developed an App for calculating nutrient requirement with little investment of time, utilized USDA and Wegmans APIs

**Deep Learning Image Catalogue of MNIST, USPS and Celebrities** *(Python. TensorFlow, scikit-learn)* **(GitHub1**, **GitHub2)**

- Assessed Convolution Neural Network (CNN) in identifying Celeb faces with goggles and classifying handwritten digits

**Image classification and panorama stitching** *(MATLAB, SVM, SIFT)* **(GitHub1**, **GitHub2)**

- Created annotated UB Image Database and performed Scene recognition and generating panorama of over-lapping images

## HONORS

Best Newbie Hacker, Brick Hack 4, 2018 • 1st/105, e-YRC, IIT-Bombay, 2014 • 98.3 percentile among 1.2 million candidates, AIEEE, 2010 • 2nd All India Rank in CS, AAT, 2007 • 9th/105, e-YRC, IIT-Bombay, 2013 • Level 2 qualifier, Google Code Jam 2013 and 2014