Satya Prakash

Roll Number: 150101087
B.Tech - Computer Science & Engineering
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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech	Indian Institute of Technology, Guwahati	9.13 (current)	2015 - Present
Senior secondary	CBSE board	96.6%	2015
Secondary	CBSE board	10.0	2013

Experience

- **Summer Intern at IIIT Delhi Under Indian Academy of Science's Fellowship Programme**
  Under Prof. Sujay Deb *May 2017 - July 2017*
  - Worked as a summer intern at IIIT Delhi under Prof. Sujay Deb for 2 months.
  - Worked on bio-metric signal acquisition and processing to extract clean ECG & PPG signal and subsequent feature extraction to predict the Heart Rate & Blood Pressure of the user.
  - Used 3-lead ECG Sensor and Fingertip PPG Sensor for data collection.

Projects

- **Cuff-Less Blood Pressure & Heart Rate Monitoring Android BLE Application**
  Indian Academy of Science's Summer Research Fellowship Programme *May 2017 - July 2017*
  https://goo.gl/CbuF2K
  - Android Application which works using Bluetooth Low Energy feature of Android devices and CC2650em-7id (Texas Instruments) Bluetooth smart kit for data transmission.
  - Signal Processing and Machine Learning are used for determining the heart rate and blood pressure of user.
  - C language used to program CC2650 and MATLAB for training the blood pressure predicting algorithm, eventually implemented using Java on Android device.
- **"Mental State Interpreter" Android Application**
  Under Dr. Samit Bhattacharya (Team of 3) *Jan 2017 - May 2017*
  https://goo.gl/6Q9W5L
  - Android Application that determines the emotion or mental state of the user and displays the emotion in real time.
  - Implemented using 68 face landmarks determination (Image Processing). OpenCV library used along with Android Studio to develop the Application.
- **Host Based Intrusion Detection System Dataset Creation Using Australian Defence Force Academy Database**
  Under Prof. Santosh Biswas (Team of 3) *Jan 2017 - Mar 2017*
  https://goo.gl/C8iFdG
  - Attack Type Recognition using System Call traces gathered in the ADFA Linux Dataset. n-gram vector extraction used for feature recognition and frequency of occurrence of features used to create the training and validation datasets.
  - Python used as the processing language along with it's multiprocessing library for faster operation.
- **"No Dues" Certificate Generator Application**
  Under Prof. Santosh Biswas (Team of 3) *November 2016*
  https://nodues1.herokuapp.com
  - User Friendly Web Application for "No dues" certificate generation and management. Created using Django Framework of Python language along with PostgreSQL DBMS.

- **"Health Diary" Application**
  Under Microsoft CODE.FUN.DO. (Team of 3) *Jan 2016 - Mar 2016*
  https://goo.gl/BGnebV
  - Keeps record of health issues of the user and also prepares diet plans for the day. Equipped with web access to health related websites.
  - Created using Windows Form Application Development using Microsoft Visual Studio as the development IDE.
- **8085 Architecture User to Assembly Language Converter And Simulator**
  Under Prof. Santosh Biswas (Team of 3) *Mar 2017 - May 2017*
  https://goo.gl/5xYkNq
  - Application to convert a user defined language into the assembly language single line per step and subsequent parsing and compilation using two pass conversion, with simulation of registers, flags and stack values based on 8085 Architecture.
  - Python's PyQt library used for user interface creation and python's regex library used for parsing.

Technical skills

- **Programming languages :** C, C++, Python, Java
- **Web technologies :** HTML, CSS, Javascript, NodeJS*, ExpressJS*, jQuery, PHP, Django*
- **Database management :** MySQL
- **Miscellaneous :** Android programming, Verilog, Octave, MATLAB
- **Operating systems :** Windows, Linux

*Elementary Proficiency

Key courses taken

- Computer Architecture & Organisation
- Software Engineering
- Data Structures & Algorithms
- Game Theory
- Discrete Mathematics
- Digital Design
- Hardware Lab
- Formal Languages and Automata Theory

Achievements

- **NTSE Scholar :** Passed NTSE 2011 Scholarship Exam (both rounds) and became eligible for Scholarship provided by NCERT. Scored within top 1% in state.
- **Joint Entrance Examination 2015 :** Secured All India Rank 3763 i.e. secured a position in top 0.3% among 1.3 million candidates appearing for the test.
- **KVPY 2013-14 :** Obtained the national research fellowship by securing a position in top 300, after clearing written and interview tests in KVPY organized by Department of Science and Technology, Government of India.

Extracurricular

- **Microsoft CODE.FUN.DO. :** Developed a windows form application based software using Microsoft Visual Studio and successfully submitted the completed project under the **CODE.FUN.DO.** contest.
- **Tech Expo, Techniche 2016 :** Displayed a Autonomous Tool Transporter Bot in the tech expo event of IIT Guwahati Tech Fest **Techniche 2016**.
- **National Service Scheme Teaching Program:** Voluntarily taught the students of a nearby government school in secondary maths and sciences under the teaching program of **NSS, IIT Guwahati**.
- **Summer Mentorship Program:** Took part as a mentor in the summer mentorship program started by CSEA, IIT Guwahati to help the first years make a constructive use of the summer break.