Chaitanya Tejaswi

Summary

An Electronics & Communication (EC) graduate with a demonstrated exposure in Embedded Systems, Image Processing, and Python-based development; I am currently looking for an opportunity in similar domains.
I have worked extensively with - AVR/ARM microcontrollers, implementing source codes in ASM/C; OCR & QR Codes in addition to conventional image processing; Python3 for creating GUIs & shell utilities, web applications (using Flask/Selenium), and machine learning scripts (using SciPy stack).
I'm open to all software development roles.

Education

June 2014 - Jun 2018 — **Birla Vishvakarma Mahavidyalaya, Vallabh Vidyanagar (GTU)**

- Completed Bachelor of Engineering (B.E.) in Electronics & Communication with a CGPA of 8.35.

June 2014 — **OSEM High School, Morbi**

- Completed HSC from CBSE Board with an aggregate of 80.2%.

June 2012 — **Delhi Public School, Gandhinagar**

- Completed SSC from CBSE Board with a CGPA of 9.8.

Experience

October, 2020 — **Sat-Trac [INFO] [DEMO] [CODE]**
A pyQGIS utility to classify buildings using satellite images & curated building-footprints. (CERN Port, 2020)

- Wrote scripts to extract data from building-footprints (.geojson).

June, 2020 — **Less Typing, More Thinking [INFO] [DEMO] [CODE]**
A web utility to lookup Latex code for extensively used Maths equations. (CERN WebFest, 2020)

- Wrote scripts to scrape & parse Tex equations from two datasets (~400 & ~18,000 entries respectively).

March, 2018 — **ISR3 [INFO]**
A web utility to extract text from community assets' images. (Smart India Hackathon, 2018)

- Led a team of 6; Wrote scripts to extract location from EXIF files, and pre-process & binarize images. Also, created an original dataset for testing.

Publications & Invited Talks

15 June, 2020 — **Unboxing GitHub [SLIDES] [VIDEO]**
A talk for academics, with focus on basic GitHub features, and how to use them to create effective lecture notes.

21st April, 2020 — **Creating eBooks from Webpages using Python [SLIDES] [VIDEO]**
A talk to get you started with web scraping in Python using minimal external dependencies. We will write a script that scrapes online court judgments and creates Android/Kindle compatible ebooks from them.

2018 — **A Novel Approach of Tesseract-OCR Usage for Newspaper Article Images**
(*Chaitanya Tejaswi, Bhargav Goradiya, Ripal Patel;* **Journal of Computer Technology & Applications. 2018; 9(3): 24–29p.**)
A novel approach for optical character recognition of newspaper article images (captured as smartphone camera images) is presented, with evaluation based on two sets of images; both captured using the same camera, under varying lighting conditions.

Projects (Academic)

April, 2018 — **Pico-Projector based Automation**
Guide: Bhargav Goradiya, BVM VVNagar

- Implemented Classroom Automation (for teachers) using DLPDLCR2000EVM pico-projector module & Raspberry Pi 3B as server.

October, 2017 — **OCR-based Personal Assistant**
Guide: Bhargav Goradiya, BVM VVNagar

- Implemented a text extractor & text reader module for newspaper article images using Tesseract OCR & OpenCV, implemented in Python.

April, 2017 — **QR Code-based information system using QPython3 IDE on Android devices**
Guide: Kaushal Patel, BVM VVNagar

- Wrote sample codes for automation using QR codes.

October, 2016 — **GSM Communication with AVRμc**
Guide: Anish Vahora, BVM VVNagar

- Implemented serial communication between AVRμc (ATmega32) & GSM Module (SIM300).

April, 2016 — **Filter Implementation using MATLAB**
Guide: Robinson Paul, BVM VVNagar

- Implemented lowpass and bandpass filters in MATLAB as an application of Sampling Theorem.

April, 2016 — **Keypad & ADC/DAC Interfacing with 8085μp**
Guide: Bhargav Goradiya, BVM VVNagar

- Interfaced 4x4 keypad & ADC/DAC (0800/0808) with Intel 8085μp using 8255 PPI.

October, 2015 — **Mod-100 Counter**
Guide: Anish Vahora, BVM VVNagar

- Implemented a Mod-100 Counter using IC-7490 (Decade Counter) & IC-74248 (BCD to 7-segment Decoder) that loops through 00-99.

Projects (Personal)

June, 2020 - — **API**
Personal collection of static APIs.

- Automated chores using JSON files.

Skills

Languages (Programming)	PowerShell, Python, C/C++, ASM (AVR, x86), HTML/CSS/JS.
Languages (Spoken)	English, Hindi, Gujarati.
Software Stack	Python (SciPy stack, OpenCV, Flask, Selenium).

References

Dr. Bhargav Goradiya	Head of Dept., Electronics & Communication Dept. (BVM Engineering College, VVNagar)
Prof. Anish Vahora	Asst. Professor, Electronics & Communication Dept. (BVM Engineering College, VVNagar)