

# 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

July 2021 - 2023 (expected)	<b>IIT Guwahati</b> Pursuing Master of Technology (MTech) in VLSI Design (Electrical Engineering).
June 2014 - Jun 2018	<b>Birla Vishvakarma Mahavidyalaya, Vallabh Vidyanagar (GTU)</b> <ul style="list-style-type: none"><li>Completed Bachelor of Engineering (B.E.) in Electronics &amp; Communication with a CGPA of 8.35.</li></ul>
June 2014	<b>OSEM High School, Morbi</b> <ul style="list-style-type: none"><li>Completed HSC from CBSE Board with an aggregate of 80.2%.</li></ul>
June 2012	<b>Delhi Public School, Gandhinagar</b> <ul style="list-style-type: none"><li>Completed SSC from CBSE Board with a CGPA of 9.8.</li></ul>

## Experience

October, 2020	<b>Sat-Trac</b> <a href="#">[INFO]</a> <a href="#">[DEMO]</a> <a href="#">[CODE]</a> A pyQGIS utility to classify buildings using satellite images & curated building-footprints. ( <a href="#">CERN Port, 2020</a> ) <ul style="list-style-type: none"><li>Wrote scripts to extract data from building-footprints (.geojson).</li></ul>
June, 2020	<b>Less Typing, More Thinking</b> <a href="#">[INFO]</a> <a href="#">[DEMO]</a> <a href="#">[CODE]</a> A web utility to lookup Latex code for extensively used Maths equations. ( <a href="#">CERN WebFest, 2020</a> ) <ul style="list-style-type: none"><li>Wrote scripts to scrape &amp; parse Tex equations from two datasets (~400 &amp; ~18,000 entries respectively).</li></ul>
March, 2018	<b>ISR3</b> <a href="#">[INFO]</a> A web utility to extract text from community assets' images. ( <a href="#">Smart India Hackathon, 2018</a> ) <ul style="list-style-type: none"><li>Led a team of 6; Wrote scripts to extract location from EXIF files, and pre-process &amp; binarize images. Also, created an <a href="#">original dataset</a> for testing.</li></ul>

## Publications & Invited Talks

15 June, 2020	<b>Unboxing GitHub</b> <a href="#">[SLIDES]</a> <a href="#">[VIDEO]</a> A talk for academics, with focus on basic GitHub features, and how to use them to create effective lecture notes.
21st April, 2020	<b>Creating eBooks from Webpages using Python</b> <a href="#">[SLIDES]</a> <a href="#">[VIDEO]</a> 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	<b>A Novel Approach of Tesseract-OCR Usage for Newspaper Article Images</b> (Chaitanya Tejaswi, Bhargav Goradiya, Ripal Patel; <i>Journal of Computer Technology &amp; Applications</i> . 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	<b>Pico-Projector based Automation</b> Guide: Bhargav Goradiya, BVM VVNagar
-------------	--

	<ul style="list-style-type: none"> <li>Implemented Classroom Automation (for teachers) using DLPDLCR2000EVM pico-projector module &amp; Raspberry Pi 3B as server.</li> </ul>
October, 2017	<b>OCR-based Personal Assistant</b> <i>Guide: Bhargav Goradiya, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Implemented a text extractor &amp; text reader module for newspaper article images using Tesseract OCR &amp; OpenCV, implemented in Python.</li> </ul>
April, 2017	<b>QR Code-based information system using QPython3 IDE on Android devices</b> <i>Guide: Kaushal Patel, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Wrote sample codes for automation using QR codes.</li> </ul>
October, 2016	<b>GSM Communication with AVRµc</b> <i>Guide: Anish Vahora, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Implemented serial communication between AVRµc (ATmega32) &amp; GSM Module (SIM300).</li> </ul>
April, 2016	<b>Filter Implementation using MATLAB</b> <i>Guide: Robinson Paul, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Implemented lowpass and bandpass filters in MATLAB as an application of Sampling Theorem.</li> </ul>
April, 2016	<b>Keypad &amp; ADC/DAC Interfacing with 8085µp</b> <i>Guide: Bhargav Goradiya, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Interfaced 4x4 keypad &amp; ADC/DAC (0800/0808) with Intel 8085µp using 8255 PPI.</li> </ul>
October, 2015	<b>Mod-100 Counter</b> <i>Guide: Anish Vahora, BVM VVNagar</i> <ul style="list-style-type: none"> <li>Implemented a Mod-100 Counter using IC-7490 (Decade Counter) &amp; IC-74248 (BCD to 7-segment Decoder) that loops through 00-99.</li> </ul>

## Projects (Personal)

---

June, 2020 -	<b>API</b> <i>Personal collection of static APIs.</i> <ul style="list-style-type: none"> <li>Automated chores using JSON files.</li> </ul>
--------------	---

## 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).
Others	Version-Control (Git), Media (Pandoc, ImageMagick, FFMpeg), ...

## References

---

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