

Yu Shi

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📝 Blog

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OBJECTIVE

Seeking a Full-time Software Developer position to apply technical knowledge, expand skill set, and contribute to the goals of the company.

EDUCATION

Tandon School of Engineering, NYU

Master of Electrical Engineering

Sep. 2017-May 2019

GPA: 3.29/4.0

Nanjing Tech University

Bachelor of Applied Physics

Sep. 2013-May 2017

GPA: 89/100

SKILLS

Programming Languages: Java, Python, C, JavaScript, HTML, CSS, SQL, Android

Software: Eclipse, Matlab, Jupyter Notebook, LaTeX

Cloud: AWS: Elastic Bean, EC2, RDS

PROJECTS

Full Stack Blog System

Jul 2019 - Aug 2019

- Running at: www.bigchickenleg.com
- Designed the front end website based on **Semantic UI**.
- Built the back end application using **Spring boot, Thymeleaf, MySQL**.
- Deployed the application on **AWS**.

Photomosaic Android App

Aug 2019 - Present

- Photomosaic is a montage-like picture that has been divided into tiled sections, each of which is replaced with another photograph that matches the target photo.
- Develop an image selector based on Glide to choose images with preview from Gallery of user's phone.
- Select one target photo, and multiple titled photographs using image selector. Divide target photo into tiled sections and select a downsampled photograph to each section based on the similarity.

360 Degree Panoramic Image Stitching

Mar 2019 - May 2019

- Concerns the problem of 360 spherical panoramic stitching using images taken by cellphone camera
- SIFT feature detection** is used to find **homography matrix** between two adjacent images. After that, **rotation matrix** can be computed using **homography matrix decomposition**.
- By picking an **anchor image** artificially, all the points in images can be rotated to corresponding **spherical coordinates** and converted into certain sub-part of panorama based on spherical transformation.
- Gain compensation and blending are used to reduce the seam between pictures to form the entire panorama.

Auto-searching Vehicle

Mar 2018 - May 2018

- This project involves navigating a vehicle through a minefield by using audio beacons of fixed frequencies located throughout the field.
- Necessary components are as following: Teensy 3.0(MCU), Microphone(Audio sensor), Servo Motor Controller as well as DC Motor(Motor part), Ultrasonic Sensor(Distance detection).
- Set up the registers in MCU for FFT, PWM, LED, Ultrasonic sensor. Processing the data acquired by the microphone by **FFT**, we can figure out the corresponding frequency.
- Strategy to search for the target beacon is explained in detail in the blog: **Auto-searching Vehicle**