Yu Shi

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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 **Sep. 2017-May 2019**
Master of Electrical Engineering *GPA: 3.29/4.0*

Nanjing Tech University **Sep. 2013-May 2017**
Bachelor of Applied Physics *GPA: 89/100*

SKILLS

Programming Languages: Java, Python, C, JavaScript, HTML, CSS, SQL
Operating Systems: Linux system, Windows
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**.

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.

Spaceship Shoot Game *Dec. 2018 - Jan. 2019*

- Implemented well-known game Raiden based on Java Swing.
- Periodically repaint the images of objects to generate the feeling of movement.
- Enemies and paradrops are randomly generated. Hero plane shoots the bullets to destroy the enemies, and hits the paradrops to get extra bullets.

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**