SHEN LIU

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EDUCATION

Purdue University, West Lafayette, IN
---BS in Electrical Engineering   2011-2015
Overall GPA: 3.62 | 4.00
Core Course GPA: 3.74 | 4.00

UC San Diego, La Jolla, CA
---MS in Electrical Engineering   2015-2017
Overall GPA: 3.54 | 4.00

SKILLS & REWARDS

Computer Languages: Java, JavaScript, Python, C, HTML5, CSS3, Matlab, Git
Software Development: AngularJS, Node.js, JQuery, BootStrap, MongoDB, Bower, Grunt, Photoshop

Certificates & Rewards: Coursera AngularJs & BootStrap Certificates, Dean's List & Semester Honors 2013-2015

EXPERIENCES

Kingsound, Shanghai, China (Web Developer Intern)   6.2016 -- 9.2016
- Collaborated with senior developers to developed the website for Kingsound with **JQuery** and Javascript.
- Designed website interface with Photoshop and Fireworks.
- Managed and Preprocessed the backend user data.

PROJECTS

Convolutional and Arificial Neutral Network (Deep Learning)   4.2017 – PRESENT
https://ml.supshen.com
- Created different models in both **Artificial Neutral Network** (ANN) and **Convolutional Neutral Network** (CNN) using **Tensorflow** and **Keras.**
- Trained the NN model over 200000+ handwrtting letters and digits.
- Evaluated each model based on 10000+ test set and achieved an accuacy of 98% without overfitting.
- Utilized **KerasJS** to export the model and created a simple web app for DNN demo.

Confusion Restaurant Full Stack Development (Full Stack Developer)   3.2016 – 5.2017
https://shen-confusion.com
Client Side
- Implemented **AngularJS** framework to support restaurant data-binding and back end communication.
- Designed responsive front end with **BootStrap**. Utilized **Bower** to fetch web packages.
Server Side
- Developed REST server with **Node.js** and **Express** to handle HTTP request and serve restaurant and user data.
- Applied **Json web tokens** (JWT) and Passport node module for user login and authentication.
Database
- Created user and restaurant Schema using Mongoose ODM and stored in **MongoDB.**
- Established connection between REST server and MongoDB server.

Principal Components Analysis with Eignefaces, UCSD   9.2016 – 12.2016
- Trained 190 trained faces to generated 190 Eigenfaces (Principal Components).
- Reconstructed 10 testing faces with Eigenfaces after applying **Principal Components Analysis** (PCA).
- Combined **Support Vector Machine** (SVM) with Eigenfaces to classify neutral expression and smiling expression faces, and achieved an accuracy of 87%.

Embedded System Based Robot Design, Purdue (Software Engineer)   1.2015 – 5.2015
https://www.youtube.com/watch?v=pAW3NXG_ZkY
An autonomous GPS-enabled searching robot with ability of environmental data collection and obstacle avoidance.
- Developed an **Android App** to interact with the robot via Bluetooth module for direction control, GPS data transmission with **Google Map API**, and data collection.
- Collaboratively Integrated various electronic modules over different communication interfaces in C.

- Collaboratively designed the printed circuit board (PCB).
- Conducted microcontroller, motor driver and circuits test.

Pattern Recognition Project, UCSD   9.2015 – 12.2015
- Recognized approximately 90% of the "Stop Sign" pattern given various input photos.
- Detected approximately 88% of the car lanes given various input photos.
- Computed 2D cross-correlation coefficient in Matlab to match the "Stop Sign" pattern precisely.
- Implemented Hough Transform, Canny Edge Detection and Histogram of Oriented Gradients (HOG) for car lane detection in Matlab.

3D Facial Recognition Project, Purdue (Project leader / Software Leader)   1.2015 – 5.2015
- Utilized 3D-capture technique to obtain 3D image and 3D coordinates of model's faces and processed in Matlab.
- Developed algorithms to extract 3D landmarks and contour information of model's face.
- Designed algorithms to detect angle of faces in order to recognize the faces from different angles.