



Anyi Rao

Personal Website: <http://anyirao.com>

Tel: +86-18795960897; E-mail: anyirao@smail.nju.edu.cn

Address: No.163, Xianlin Avenue, Nanjing, 210023, China.

Educational Background

School of Electronic Science and Engineering, Nanjing University (NJU)

09/2014 - 07/2018

Major: Electronic Information Science and Technology

Minor: English Literature

Academic

All major curriculum courses are above 95 (A+). My overall GPA is 3.96 out of 4.00. I am the top student among 183 classmates in my school. I finished my major curricula in 2 years.

Research Experience

Express bill handwritten telephone number recognition, leader

02/2017-present

LAMDA Group (led by Zhi-Hua Zhou), Nanjing University

- Learned PAC learning theory, Dropout, Batch Normalization, ResNet, RCNN, F-RCNN.
- Wrote a program to transform the data from database to formats that suit my deep learning code frame.
- Trained a large and deep CNN model with TensorFlow. Applied BN and ReLU after every convolution, and used SK-s (small kernel size with s channels in convolution layers) networks structure.

3D Reconstruction Using Light Detection And Ranging (Lidar) and Camera, main contributor

08/2016-01/2017

Visual Sensing and Graphics Lab (VISG Lab), Nanjing University

- Collected and preprocessed point cloud data sets for indoor 3D scene reconstruction
- Reconstructed real-time indoor scenes using Motion Estimation and Mapping
- Implemented low drift odometry and mapping (loam) algorithms to improve accuracy; Python
- Calibrated camera and dyed reconstruction results by applying camera information
- My work contributes to our team's success 3 months ahead of schedule

Road Car Flow and Its Effect on Roads, leader

08/2016-09/2016 12.2016-01.2017

- Constructed 3 models to depict road circumstances and 2 models to predict car motion using **Markov Chain Process** and OD estimated matrix method
- Improved our solutions using **Convex Optimization** in terms of traffic load, vehicle type and different kinds of tollbooths; Matlab, C
- Wrote a report to ministry of transportation

Course Projects

Construction of a Spam Filtering System; Machine Learning

05/2016

- Preprocessed data sets with the html2text, regular expression, CountVectorizer;
- Trained the model with Logistic Regression, Naive Bayes, SVM and CNN. Used



cross-validation to tune parameters and evaluate four algorithms.

Monte Carlo Method for Solving Definite Integrals; Probability & Stochastic Process 06/2016

- Monte Carlo method relies on repeated random sampling to obtain numerical results. I used it to calculate definite integrals and compared it with numerical methods and improved it.

Design of a Panoramas Stitching Program; Computer Vision 12/2016

- Collected pictures according to the project requirement;
- Implemented Harris Corner algorithm, compute the corner features of pictures and matched corresponding features with SSD function;
- Implemented the RANSAC algorithm and estimated the transformation matrix (RANSAC);

Tetris Game; C++ 12/2016

- Shape management, piece movement and edge collisions. Collision detection. Scores, level, line clearing, grid moving when line is cleared, and bonus scores for multiple lines added.

Cluster sky objects; Python 12/2015

- Cluster a catalog of 2 million sky objects into similar objects, e.g., galaxies, nearby stars, quasars, etc. Use Euclidean cluster algorithm.

Implementation of a Network Application 10/2016

- Implemented an C/S application for online chat and file transfer with socket programming.

Leadership Experience

Grade Leader in the Student Work Office at Nanjing University 10/2014-10/2015

- Instructed class monitors on effective class management
- Assisted class monitors with presentation preparation and delivery of Campus life essentials to freshman students
- Assisted Professors in marking and helping students understand key problem areas
- Provided essential support to all freshman students in preparing for CET, CRE

Vice President of a Young Volunteers Association at Nanjing University 06/2015-06/2016

- Organized volunteers to assist 865 teams containing 2695 candidates in the National Undergraduate Electronics Design Contest
- Recognized as a key team leader in the successful *Warm 100* of China Foundation for the Poverty Alleviation Campaign, and our group received the excellent group award.

Team Leader for the Nanjing University Elderly care Volunteer Program 09/2015-04/2016

- With the team visited elderly people in their home and provided housekeeping, food shopping and companionship
- As team leader, designed a survey to analyze volunteer activities effectiveness and determined how to improve the experience for the elderly people

Research intern/Group leader at CHANGJIANG ELEC. TECH. (JCET) 07/2016-08/2016

- Led the team to above expectations performance of all assigned tasks

Honors and Awards

National Scholarship, the China Ministry of Education

Nanjing University People Scholarship

Nanjing University Excellent Student Leader Award

Nanjing University Excellent Student Award

Top Volunteer Excellence Award



Campus Culture Development Award

First place in the school of Electronics Engineering experiment contest

Second Place Award in the National Contemporary Undergraduate Mathematical Modeling Contest

Nanjing University *19th Art and Science Forum* Third Place Award

Calculus World Cup world ranking 32th, National Taiwan University

Skills and Hobbies

Programming/ Software: Familiar with C, C++, MATLAB, Python Experienced on HTML, CSS, Assembly, Altium, TINA

Research Related: TensorFlow, Caffe, liblinear, VLFeat, MatConvNet, CVX, SPAMS, OpenCV, OpenGL, Git, Octave

Document: LaTeX, Markdown, MS Office

Operating Systems: Ubuntu 14/16, Windows XP/7/10, OS X;

Others: Student Member of IEEE, Member of the Electronic Science and Engineering Basketball team, Member of the Nanjing University choir