

Yang Guo

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Education

University of California, Los Angeles(UCLA), California, USA

09/2019 – Present

- Master of Science, Computer Science

Peking University, Beijing, China

08/2017 – 06/2019

- Ph.D. candidate, Integrated Life Science(Biology)/Computational Biology (Quitted)

Shandong University, Jinan, China

08/2013 - 06/2017

- Bachelor of Science, Computer Science GPA: 90.21/100 Major GPA: 92.31/100

Skills

- Languages: Java, C++, Python, Matlab, Swift, HTML, JS, JSP
- Tools: Linux/Unix, Xcode, Eclipse, VS, Git, OpenGL, OpenCV, Tensorflow

Research Experiences

Ph.D. Candidate, Peking University, Beijing, China

02/2018 - 06/2019

- Researched machine learning models to predict human's age based on oral microorganism and 3D human face data; use of deep learning models; goal is to discover the "marker" related to human aging
- Developed human face data collection app in Swift with iPhone X's TrueDepth camera
- Undertook and completed sample data collection in Tangshan City

Research Assistant, Shandong University, Jinan, China

06/2015 - 06/2017

- Implemented real-time human head pose estimation and tracking algorithm based on video stream in Matlab
- Developed a multi-layered, hierarchical structure based on SVR, KRF and AKRF (2014 ECCV), and used neighboring frames to optimize the current frame's estimation

Research Assistant, Shandong University, Jinan, China

06/2014 - 05/2015

- Developed Finger-Vein Verification Platform with MFC, C++ and Matlab to recognize people's identity
- Realized end-to-end vein verification process: data collection, image enhancement, feature extraction, template building, template matching, model tuning, result analysis and conclusion
- Used visualization tools for the performance evaluation of different algorithms
- Optimized the feature extraction phase from using template matching and LBP-SIFT descriptors, to using SVM and Gabor-Dense SIFT descriptors. The result was an increase in predictive accuracy of 3%.
- Participated in Performance Evaluation of Finger-Vein Verification Algorithms (PFVR2014) held by PKU, ranking in the top 20%, and applied for software copyright (2016SR126579)

Project Experiences

Machine Learning Bootcamp

03/2018 - 06/2018

- Implemented Sequential Minimal Optimization (SMO) algorithm for training SVM with Matlab
- Realized hero categorization and built hero location alarming system for opponents in Overwatch with CNN

Computational Chemistry and Pharmacy

10/2017 - 02/2018

- Trained a revised *im2txt* model to convert images of small chemical molecules to SMILES strings.
- Analyzed the prescription of Chinese patent medicines and used FP_growth to discover the medicines with strong association rules.
- Trained DNN model to predict the medications required to treat specific diseases. Delivered the final prescription based on association rules and predicted medications.

Linux and Computer Architecture

01/2016 - 04/2016

- Analyzed Linux 0.11 kernel source code; modified assembly code and C code to analyze memory utilization, inserting breakpoints to assist in profiling; visualized the OS memory management process in Java.

Database and E-Commerce Website

03/2015 - 05/2015

- Built an E-commerce platform with modules for goods retrieval, shopping cart, and payment system.
- Implemented the front-end with HTML and JavaScript, and implemented back-end using JSP and Tomcat.
- Designed database schema and stored data into MySQL.

Game Application Development in Java

09/2013 - 12/2013

- Implemented a *bullet hell* game, RozenDanmu, with JAVA Swing, and ranked 1st place in the Foundations of Program Design course.
- Developed an online battleship game in a 2-person team, using Git for version control, "315Battle", with OpenGL, and ranked 1st place in the Design of Advanced Programming Languages course.