Haiyu Zhang

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Education

University of California, San Diego	San Diego, CA
M.S. Machine Learning and Data Science , **GPA: 4.00/4.00**	May, 2021 – NOW
University of Science and Technology of China	Hefei, China
B.S. Microelectronics, **GPA: 3.48/4.00 Top 15%, almost all basic Math and physics courses above 90**	Sep, 2012 – Jun, 2017

Skills

Programming Language: Python, Java, C#, C/C++, MATLAB, Pascal, ASM   Database: MySQL, Redis, MongoDB

Web Programming: Html/CSS, PHP, ASP, TypeScript/JavaScript, SQL, Scala, Shell, DOM, BOM

Frameworks: React, Django, PyTorch, Flask, Spring, Node.js, Express.js, Jinja, PyTorch

Projects & Software development

Java Neuron   Aug, 2021

- Developed a totally java-based library from scratch to establish concise neural network.
- Implemented a series of key features including neuron, layers, connection(input/output), forward propagation, back propagation, gradient calculation (Automatic Differentiation), network architecture saving and loading.
- Up to now, Neural network can reproduce LeNet-5 easily.

AI Food Recognition & Finder   Spring 2021

- Developed a website with **Django** to recommend restaurants nearby based on the food uploaded or taken from camera
- Filtered and labeled the photos from Yelp data Set into 50 food classes by text mining their captions using **Python**
- Built a food image classifier using **PyTorch** by fine-tuning inceptionV3 CNN, achieved 70% accuracy
- Implemented restaurant recommendation with **PyTorch** by item-based collaborative filtering with cosine similarity
- Designed and implemented a web page to show recommended restaurants and their location with **Google Map API**

Invoice recognition AI   Dec, 2020

- Developed a web app with **React** as frontend and **Flask** and **Jinja** as backend to help accountant deal with invoices.
- Uploaded and converted invoices to accounting vouchers and financial statements by **Baidu ORC API**.
- Implemented online grid UI with **React**, along with the function of adding/deleting record, statistics, filtering, etc.
- Designed relational database in **MySQL** to support the online data storage
- Exported the online data as xlsx file based on **Apache POI**.
- Reduced accountant's working time from 20 hours/week to 1 hours/week, making tax calculation more convenient.

Universal Code Parser   June, 2019

- Designed the **general algorithm** of parsing the structure of programming codes to JSON, such as Java, C, C#, Python, html, CSS, React or any type of codes with user-defined configuration, making the conversion and interpretation of programming codes and the development of new framework like React much easier
- Designed the **general algorithm** of serialization and deserialization between JSON and other programming data, with user-defined configuration, making the data exchange, loading and saving convenient.

Work Experience

Inter Summer @ University of Texas at Austin	Austin, TX
Li group, department of Physics	Jun,2015–Aug,2015

- LabVIEW programming for the experimental apparatus

Honors and Awards

2nd Prize (Sept. 2011), 3rd Prize (Nov. 2010) in the National Olympiad in Informatics in Provinces, China Computer Federation

1st Prize (Sept 2011) in the Chinese Physics Olympiad, ranking the 39th in Jiangsu Province (Pop:80M), Chinese Physical Society

Related Courses

Computer Programming A

ECE 143	Programming for Data Analysis	CSE 100	Advanced Data Structure
CSE 250A	AI: Probabilistic Reason & Learning	CSE 251A	ML: Learning Algorithms
CSE 257	AI: Search and Optimization	CSE 291	Unsupervised learning