

Jiayu (Gary) Wang

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Machine Learning Engineer

Accomplished and dynamic professional with a proven history in machine learning projects to drive organizational growth. Proficient in both frontend and backend machine learning with expertise in natural language processing. Technically savvy in industry-specific technologies and adept at collaborating with interdisciplinary teams. Skilled interpersonal communicator able to lead, train, and motivate others.

- Client Communications
- Innovative Initiatives
- Process Improvements
- Technical Projects
- Research & Analysis
- Problem Resolution
- Revenue Increase
- Workflow Facilitation
- Collaboration

Career Experience

Machine Learning Engineer, Capacity, Location 2017 to Present

Project 1: Developed the first prototype of major product Jane which is a cross-platform virtual assistant. Contributed to platform integration, NLP processing, skill execution, and output generation. Built a house-made ORM for database connection and trained an ensemble algorithm.

- Generated a million in revenue within the first two years.
- Improved the overall match rate from 65% to 80%.
- Utilized: LAMP routine, NLP processing, gmail and SMS platform integration, Stanford CoreNlp, Spacy.

Project 2: Helmed the development of a potential client's product which was a web service where the customers' documents are automatically analyzed to generate question-answer pairs. Performed all the NLP parts to include test segmentation, entity extraction, and question generation.

- Completed the project within one month.
- Achieved a successful client contract sign worth \$200K.
- Utilized: CRUD functionality, REST API's, vanilla Javascript UI.

Project 3: Built a graph structured search engine able to do all NLP tasks in parallel with each task working as a micro service. Integrated multiple new models wrapped in python or closure apps.

- Improved efficiency by developing a debugger and configuration panel.
- Resulted in a 85% F1 score on inquiry matching and average processing time is 2x faster.
- Utilized: Rabbitmq, Redis, python.

Project 4: Integrated elastic search into the inquiry matching process to facilitate searching time. Applied the elastic search into document searches to make it almost real time for the user experience.

- Improved the average matching time by 30% for the common inquiries which is 10x faster.

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Page | 2

Biostatistician, Washington University OT Department, Location 2016 to 2019

Collaborated on a project to identify the best treatment and analyze the influence on post-stroke patients via time series data. Identified the 20 most useful features in treatments with semi-supervised machine learning.

- Innovations resulted in invitations into two conferences.
- Pioneered researched that laid the foundation for researches and two papers.

Senior Data Coordinator, Washington University Psychiatry Department 2015 to 2019

Identified explainable patterns in patients' vital signs and applied supervised machine learning to make real-time readmission risk predictions. Utilized a dataset of 20K+ patients' 2M monitoring records from the ICU.

- Contributed to four research publications.
- Achieved the eICU project outperforming the Google research paper.

Education & Technical Skills

Master of Science: Biostatistics | Washington University of St. Louis, St. Louis, MO

Bachelor of Science: Biology & Computer Science | Shanghai Jia Tong University

Programming Language: Python, Php, JavaScript, SQL, R, java, C++, matlab, SAS

Frameworks: Flask, Falcon, SQLAlchemy, React, Kubernetes

Machine Learning: Pandas, Sklearn, Keras, Tensorflow, Xgboost

Softwares: Rabbitmq, Nginx, Jupyter, vim, Mplus, R studio, elastic search, Redis, Docker

Publications

- The Development of Temperament and Character during Adolescence: Gender Differences in Two Phases of Change. Ada H.Z., Igor Z., Jiayu W., Robert C., Andrey P. Anokhin. Development and Psychopathology
- The NMF-based DTI-TBSS Analysis (NDTA) method decomposes brain diffusion imaging data into distinct patterns of white matter anisotropy. Currently under review. Has been successfully received by Bioinformatics and assigned the number: BIOINF-2019-0004