Education

University of Wisconsin-Madison

M.S. in Computer Science (GPA 4.00/4.00)

Aug. 2021 - May 2023

Madison. Wisconsin

• Relevant Coursework: Advanced Algorithms (A), Foundations of Data Management (A), Computer Vision (A), Data Visualization (A), Database Management Systems (A), Machine Learning (A), High-Performance Computing (A), Big Data Systems (A), Advanced Deep Learning (A), Advanced Computer Network (A).

University of California, Berkeley

Aug. 2019 - Jan. 2020

Exchange Program for Fall 2019

Berkeley, California

• Relevant Coursework: High-Dim Data Analysis with Low-Dim Models, 3D Image Processing.

South China University of Technology

Sept. 2016 - Jun. 2020

B.E. in Computer Science and Technology (Major GPA 3.89/4.00)

Guangzhou, China

- Relevant Coursework: Computer Graphics (92), Software Engineering (89), Design & Analysis of Algorithm (90), Principle of Compiler (95), Android Development (96), Operating System (90), Computer Security (91), High-Performance Computing and Cloud Computing (96), Introduction to Pattern Recognition (91), Multimedia Technology (95), Computer Network (93), Intelligent Robots Technology (95).
- Awards: National Scholarship, China Computer Federation Elite Collegiate Award, Stars of Tomorrow in Microsoft.

Experience

Epic System Jul. 2023 - Present

Full Stack Software Engineer

Madison, Wisconsin

- Developed the workflow for obstetricians to trace the patient's obstetric status by creating a pregnancy episode based on C# (server code), TypeScript with React (client code), and MUMPS (database). Finished unit testing, integration testing, and performance testing of this workflow. Implemented the feature tracking to record and analyze the usage of this functionality.
- Developed Spotlight Cards print groups based on HTML/CSS. The obstetricians could review relevant information summary pulled from the patient database without needing to visit the navigator section.

TikTok Jun. 2022 - Sept. 2022

Software Engineer Intern

Mountain View, California

- Made automatic data processing pipeline for AR platform users to store AR data and generate AR models. Developed Visual Positioning Service (VPS) map reconstruction service based on PARA cloud platform.
- Employed video cloud ImageX to based on Toutiao Object Storage (TOS) to realize multi-part upload, which supports GB-level video uploading and processing. Implemented asynchronous producer-consumer pattern based on **Apache Thrift** to process high-load VPS map generation requests.

Microsoft Research Asia

Apr. 2020 - Jul. 2021

Machine Learning Intern

Beijing, China

- Developed the quant platform Qlib on GitHub (github.com/microsoft/qlib), designed Meta-Controller, Reweighter frameworks in Qlib. Deployed and trained machine learning models implemented in PyTorch on Azure clusters. The parallelization is realized by Task Pool mechanism. Recorded model performances in MLflow.
- Focused on data feeding in stock market prediction. Proposed a meta-learning-based method that could effectively forecast the evolution of data distribution and improve the performance of models.
- Published an academic paper (first author) "DDG-DA: Data Distribution Generation for Predictable Concept Drift Adaptation" on AAAI Conference on Artificial Intelligence (AAAI-22).

Projects

MD5 Crypt Cracking Algorithm based on GPU-Accelerated CUDA

Sept. 2022 - Dec. 2022

- Implemented an MD5 hash cracker for passwords based on CUDA with efficient data parallelism.
- Created a self-contained MD5 resume by inserting digit number images created by identical prefix collision.

License Plate Recognition System based on Domain Adaptation

Feb. 2022 - Jun. 2022

- Applied domain adaptation to allow knowledge transfer from the original training environment (source domain) to various inference environments (target domain). Built a license plate recognition system based on StreamLit.
- Implemented traditional machine learning algorithms and domain adaptation algorithms (DANN, CCSA).

Technical Skills

Languages: C++, C#, Python, TypeScript, Java, JavaScript, SQL, Ruby, MATLAB, IATEX

Developer Tools: Linux, Docker, VS Code, Eclipse, Qt Creator, Android Studio, tmux, Git

Technologies/Frameworks: React, HTML/CSS, Unreal Engine, Unity 3D, PyTorch, TensorFlow, MLflow, Jupyter Notebook, Apache Thrift, Apache Spark, Apache Hadoop, CUDA, OpenMP, Open MPI