Shilin Ma

EDUCATION

Carnegie Mellon University Pittsburgh, PA

Master of Science in Computer Science | GPA: 4.06/4.33 Dec 2023

- Selected coursework: Web Application Development, Introduction to Deep Learning, Physics Based Rendering
- Teaching Assistant for Computer Graphics (Spring 2023)

Coursework towards doctoral education and research in Mathematical Sciences | GPA: 3.82/4.33 Aug 2018 – Jan 2022

Master of Science in Mathematical Sciences May 2020

- Selected coursework: Machine Learning with Large Datasets, Convex Optimization, Graduate Algorithms
- Teaching Assistant for Calculus in Three Dimensions (Lead TA), Basic Logic, and Concepts of Mathematics

Carleton College Northfield, MN

Bachelor of Arts in Mathematics | GPA: 3.72/4.0 June 2018

- Selected coursework: Computer Security, Computability and Complexity, Advanced Linear Algebra

SKILLS

Languages: Python, C, C++, Java, C#, HTML, CSS, JavaScript, SQL, LEAN

Packages and Platforms: AWS, Databricks, Django, GCP, JQuery, NumPy, Pandas, PySpark, PyTorch, TensorFlow

WORK EXPERIENCE

Acadian Asset Management Boston, MA

Investment Research Intern May 2023 - Present

- Creating new strategies to minimize transaction costs in global markets

Microsoft Shanghai, China

Software Engineer Intern July – Aug 2021

- Designed a web app to visualize the data flow in the ERP software Dynamics 365
- Collaborated with another intern and coded the backend of the web app in C#
- Received positive feedback from product management

Speakin AI Shanghai, China

Algorithms Intern May – June 2021

- Created an algorithm in Python for online multi-microphone de-duplication that overlooks non-speaker microphone inputs for generating meeting transcripts
- Prepared data and trained an n-gram language model for Points of Interest locations and merged it with a general model to improve voice recognition performance

PROJECTS

Specular Manifold Sampling Carnegie Mellon University | Apr – May 2023

- Won the technical award for Physics Based Rendering by implementing a novel technique for sampling specular paths in an unbiased manner that improves performance for caustics

Finetuning Whisper model for accented speech Carnegie Mellon University | Apr – May 2023

- Finetuned the open source ASR model Whisper using Mozilla Common Voice Dataset with importance sampling
- Achieved better and more evenly distributed performance across accents (17.46% reduction in word information loss and 33% reduction of chi-squared statistics) represented in the GMU dataset

Footprints Web App Carnegie Mellon University | Mar - May 2023

- Developed a social media platform for sharing maps with Django framework using Google Maps API and OAuth
- Coded the frontend with REACT and Bootstrap and deployed the web app on an EC2 instance with Apache
- Practiced the agile methodology for project management as the scrum master for a team of four

Face Classification and Verification Carnegie Mellon University | Feb – Mar 2023

- Built from scratch and trained a ConvNeXt model for classifying images of 7000 individuals and achieved 92% accuracy
- Finetuned the network using ArcFace loss and exceeded 66% accuracy for determining if a face belonged to any person in the training dataset (top 5% of class)

Midwest Regional Competition Terminal Live | Mar 2021

- Designed and crafted an algorithm that battles with strategic attacks and optimized resource placement in a game-based coding competition sponsored by Citadel
- Collaborated in a team of three and collectively won a $1000 prize for 9th place (out of 47 teams)