XINLONG YIN

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EDUCATION

Georgia Institute of Technology — *August 2021 - December 2022*
Master of Science in Computer Science — *Cumulative GPA:* ***3.90/4.0***

University of Michigan, EECS — *August 2019 - May 2021*
B.S.E. in Computer Engineering — *Cumulative GPA:* ***3.924/4.0***

Shanghai Jiao Tong University (Dual Degree) — *September 2017 - August 2019 & May 2021 - August 2021*
B.S.E. in Electrical and Computer Engineering — *Cumulative GPA:* ***3.47/4.0***

Selected Coursework: Cloud Computing, Distributed Systems, Computer Networks, Operating Systems, Database Management Systems, Computer Security, Compiler Construction, Embedded Systems, Search Engine, Computer Graphics, Machine Learning

SKILLS

Languages: C++, C, Python, Golang, HTML, CSS, Javascript, SQL, Java, NoSQL, Typescript, R, C#
Frameworks/Tools: React, Flask, MySQL, SQLite, Kubernetes, ZooKeeper, Redis, Wireshark, AWS, Azure, Linux, TensorFlow, PyTorch, Docker, WebGL, Three.js, OpenMP, Open MPI, gRPC, STM32CubeIDE, Android Studio, Ethereum, Ryu Controller

WORK EXPERIENCE

Amazon AWS Security Organization — May 2022 - August 2022
SDE Intern — *Mentor: John Carroll*

· Implemented a **Python package** that can identify exemptions with underlying risks, classify them into different severity, and flag redundant exemptions, with 100% unit and integration test coverage, and deployed it using **CI/CD** pipeline.

AirMettle, Inc. — February 2023 - Now
Junior Software Engineer

· Added a Bloom-filter with AVX2 to the open-source Simdjson library in **C++** and made Json parsing faster by up to **46%**.
· Built an automatic benchmarking system in **Python** on **AWS CodeBuild** that can generate performance summary plots.

PROJECT EXPERIENCE

Cloud Native MapReduce Framework — March 2022 – April 2022
Georgia Institute of Technology — *Instructor: Prof. Umakishore Ramachandran*

· Implemented a MapReduce Framework in C++ that takes arbitrary Python functions as map/reduce functions; uses **Zookeeper** to achieve **leader election** for masters; uses **gRPC** for **RPC calls and load-balancing** among workers.
· Deployed the framework to **Azure Kubernetes Service and Container Service (Docker)** for **automatic failure recovery**, and used **Azure Blob Storage** for input/output file storage.

System Design of a Search Engine — January 2021 - April 2021
University of Michigan — *Instructor: Prof. Nicole Hamilton*

· Developed a distributed crawler using C++ that can download **2200 web-pages per second** while obeying the "robots.txt" rule, and **automatically recover from crashes** by check-pointing the status data every 10 minutes.
· Designed a communication protocol that allowed the servers to cooperate and crawl distinct web-pages, and accept new servers.
· Deployed the crawler onto 11 **AWS** and **Azure** servers, and downloaded **500 million** web-pages in 5 days to build indices.

Financial Services Website — January 2020 – December 2020
Multidisciplinary Design Program at Umich, Sponsored by Principal Financial Group, Inc. — *Sponsor Mentor: Tony Tavegia*

· Built a one-stop information website of benefit packages with a cost estimator and a forum using **React**, **Flask**, and **Agile**.
· Developed "post", "like", "filter" features on the forum, and stored the related data into **MySQL** tables that satisfy BCNF.
· Deployed the website onto **Google Cloud Platform**, and used **CircleCI** to enable automatic build, test, and deployment.

Data-center Network Simulation — January 2022 – March 2022
Georgia Institute of Technology — *Instructor: Prof. Umakishore Ramachandran*

· Implemented a set of **OpenFlow** rules on **Ryu Controller** and **Mininet** that can find out widest routing paths between hosts, monitor the port and flow status, and dynamically redistribute flows based on network topology and traffic changes.
· Developed a **Network Functions Orchestrator** that allows load-balancing and dynamic scaling of **Firewalls** and **NATs**.

RESEARCH EXPERIENCE

Machine Learning from Label Proportions — May 2020 - August 2020
Research Assistant at Network Research Group, UMich — *Mentor: Prof. Ranjan Pal, Prof. Mingyan Liu*

· Devised a semi-supervised deep learning model with TensorFlow that uses knowledge of distributions to predict individual labels.
· Achieved around **30% improvement** in object labeling accuracy compared to the state-of-art method (DLLP).