Xinghao **Chen**

Electrical and Computer Engineering

github.com/Hecate2
SECRET_PHONE @ 2474101468@qq.com

Education

2020 **Fudan University**, Bachelor of Science, Electronic and Information Science and Technology
Present **Georgia Institute of Technology**, Graduate Student, Electrical and computer engineering

Competences

Languages Python, **MATLAB**, **verilog**, **C(++)**, JavaScript, HTML, Java, Go, ...
Awards National 1st-class award of CUMCM 2018; 2nd class undergraduate scholarship; ...
Efficiency Awareness of automation, code structure and strategic plans
Interests **[NOT PROFICIENT SKILLS]** ETL, micro-service, design modes, documentation, interdiscipline

Experiences

June 2019 — **Ignareo, HTTP Spider Core of Ultimate Concurrency, 130+ stars**

- Spiders packed in asynchronous tornado servers
- Distributed broker architecture : aspects packaged as micro–service nodes
- Covering shortages of scrapy : non-blocking sleep, user codes of better cohesion, freedom and tidiness; scalability with customized load–balancing
- Seamless compatibility with anything based on asyncio or gevent
- Combat-proven performance and stability

distributed | web spider | asyncio | aiohttp | gevent | requests | tornado

February 2020 – June 2020 — **Intern developer, Federated Learning Backend with Data Privacy, www.points.org**

A web service for cross–organization federated machine learning. Based on distributed datasets from different organizations, the training process should still keep strict data privacy of each data owner. The service is principally based on gRPC instead of HTTP.

- Basic but complete experience of commercial development flow : designing, coding, deploying, testing, pull request and code review. 111052++, 86888– lines of code commission in the main repository.
- Designed and wrote a user and API authorization backend. Wrote a data-usage approval backend.
- Referring to horizontal learning APIs, developed vertical learning APIs. These APIs mostly involve data manipulation, but do not include core encryption and secret–sharing algorithms for learning.
- Wrote a basic service to retrieve real-time logs from docker containers and feed them to the frontend.
- Developed basic automatic cross-system process tests for the APIs described above.
- Implemented a mechanism to stop distributed vertical or horizontal training.
- Built a basic client for on-line model inference service stress test, using Ignareo.
- Tentatively designed a RESTful service for data providers to manage data, using flask and swagger.
- Participated in software copyright registration and federated learning product standards.
- Wrote docs and user manuals.

protobuf | gRPC | sqlalchemy | redis (message queue) | tensorflow-federated | dockerfile | docker-compose | git | Flask | swagger | Go

July 2019 – August 2019 — **Intern developer, High Concurrency Web Spider for Monitoring, Johnson Controls**

- Monitored tens of thousands of IoT devices with help of Ignareo.
- Analyzed anomaly and output results to Excel sheets.
- Provided a web service to browse and download the Excel files.

Ignareo | requests | tornado | xlwings