CHENYU MAO

+1(540)-824-9043 ⋄ Blacksburg, VA

mchenyu@vt.edu

EDUCATION

Master of Engineering (Computer Science & Application), Virginia Tech (GPA: 3.92/4.0) 2022 Aug - 2023 Dec
Bachelor of Science(Computer Science), Virginia Tech 2018 Aug - 2022 May

SKILLS

Languages:	Java, Python, SQL, HTML, CSS, JavaScript, Lua
Database & Web Application:	MySQL, Redis, Springboot, Mybatis, Flask.
Network Fundamentals:	TCP, UDP, SDN, ping, traceroute
Tools:	Git, Jmeter, Postman, Linux Commands.

EXPERIENCE

Software Test Engineer Intern May 2021 - Aug 2021
Hikvision Digital Technology Co.,Ltd *Hangzhou, China*

- Tested the work of SSD and IPC memory card development using self-developed test tools, including pressure test, restart test, and back-end test, with a defect rate of 15%.
- Built test environment of SSD, assisted R&D personnel to track and verify according to defect prompts, reproduced test vulnerabilities, and wrote test reports.

Software Test Engineer Intern May 2020 - Sept 2020
Dahua Technology Co. LTD. *Hangzhou, China*

- Upgraded the hardware functions of the IP camera and used automated tests tools to detect vulnerabilities.
- Executed software test cases and communicated with developers to resolve submitted defects, and reduced the defect rate from 14% to 11%.

PROJECTS

Shop Review Website The one-stop travel & local platform to discover nearby favorites, where users can browse shops, coupons sec-kill, write blogs, and like and comment on blogs.

- Verification Code Login: Using Redis to implement distributed session, and achieved synchronization of login status between clusters.
- Shop query: Use Redis to cache popular shops, reduce DB pressure and improve query performance by 90%.
- Coupon seckill: Achieved inventory pre-checking using Redis + Lua script, and asynchronous creation of orders through Stream queues, which improves the performance by 60%.
- Cache Strategy: Using generic type and functional programming to implement a general cache access static method, and solve problems such as cache avalanche and cache penetration.

Digital Library Browser The web application encapsulates topic and document browsing, document search, and trend analysis for users of a digital library.

- Topic Modeling: Implemented 4 different topic models(CTM, NeuralLDA, LDA, ProdLDA) to classify 500k ETDs into different topic categories using OCTIS.
- Search Engine: Achieved a document query engine with TF-IDF and BM-25 using Lucene.
- Recommendation: Implemented related topics and documents using the approximate nearest neighbor algorithm FAISS.

PUBLICATIONS

- Aman Ahuja, Chenyu Mao, Edward A. Fox, "A Framework for Browsing and Searching Document Collections"(under preparation).
- Aman Ahuja, Chenyu Mao, William Ingram, and Edward A. Fox. Analyzing and Navigating ETDs Using Topic Models. The Journal of Electronic Theses and Dissertations (J-ETD), in press
- Aman Ahuja, William A. Ingram, Chenyu Mao, Chongyu He, Jianchi Wei and Edward A. Fox. Analyzing and Navigating ETDs Using Topic Models. ETD 2022 conference, Novi Sad, Serbia, September 7-9, 2022