Guozhen She

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EDUCATION

Fudan University, Shanghai, China
Bachelor of Computer Science expected in 07.2020
GPA (overall): **3.55/4.0**; GRE:**331**; TOEFL(**101**)

ACADEMIC EXPERIENCES

University of Illinois Urbana-Champaign Research Intern July.2019 - Oct.2019
Supervised by **Tianyin Xu**

- **Linux Kernel Support for High-throughput Container**
  - Wrote Linux kernel module and retrofitted the source code of Linux kernel and Docker to improve the performance of the container in different cloud services.
  - Investigated the implementation of SELinux, seccomp, cgroup to seek the opportunity of enhancement.

Fudan University, Mobile Systems And Networking Group April.2017-
Supervised by **Yang Chen**

- Perfing Azure Functions (Serverless Computing)
  - Built the toolkit to evaluate the metrics of serverless computing. (Azure)
  - Investigated the event-driven, **replay** mechanism of Azure Function(by source code in C#)
  - Reason out how **coroutine** in CLR influences the concurrent performance in Azure Function.
- Social Network Analysis (Google Scholar & LinkedIn)
  - Built the **distributed** crawling service to fetch profiles from LinkedIn and Google Scholar.
  - Detection of the **misconfigured** profile on Google Scholar, which is submitted to TKDE.
- Qingyun Go: A User Data Collection System in Mobile Environment
  - Built a location-based mobile app with fully HTTPS support. To reduce the latency, the **asynchronous** programming pattern was introduced to the whole front end. The client-based cache is leveraged to reduce the network traffic. This work is published at Workshop MHC Ubicomp.
- Real-time Message Monitoring System(WeChat)
  - Hacking the communication protocol of a popular chat app, built a multiple-process web service **mocking** the WeChat client. then store the intercepted messages(video, text, audio) in the MongoDB.

INDUSTRY EXPERIENCES

Microsoft Research Asia, System and Network Group | Research Intern Jan.2019-July.2019
Supervised by **Yongqiang Xiong**

- Bot Detection System for Azure Cloud Service
  - Implemented **the preprocessing pipeline** of daily network log data fetching from Bing, concurrently parsing the HTTP messages leveraging **goroutines** into sessions hosted on a distributed file system. Implemented a red-black tree-liked mapping structure to support the **range query** for IP address in the internal service. Hacked the python serialize library for the sharing memory among processes, to free the limitation of GIL.
  - Built a **graph-based** deep learning model to detect bot behavior by aggregating requests into sessions, reaching **94.3%** accuracy on labeled Bing log data. Optimized the IO performance for training in using TFRecord.
  - Contributed patches to DFC, and built a C++/C# parsing library supporting multiple-string matching with heterogeneous regex backends, and is finally delivered to Azure team.

Intel Asia-Pacific R&D, Open Source Technology Center | SDE Intern Aug.2018-Nov.2018

- Contributed patches to OpenStack Community, and helped with deployment on bare-metal devices.
- Built a **rule-based** command-line tool migrating codebase from python2 to python3.
- Implemented a graph-based algorithm for **package dependency analysis** for the python file in the project.

PUBLICATION

BotGraph: Web Bot Detection Based on Sitemap

- Yang Luo, **Guozhen She**, Peng Cheng and Yongqiang Xiong (**https://arxiv.org/pdf/1903.08074.pdf**)

LBSLab: A User Data Collection System in Mobile Environments

- Qingyuan Gong, Xinlei He, Qinge Xie, Shihan Lin, **Guozhen She**, Ruiyu Fang, Rui Han, Yang Chen, Yu Xiao, Xiaoming Fu, Xin Wang
- Proc. of Workshop MHC, **UbiComp** 2018

SKILLS

Programming Language: Python, Java, Golang, C, C++, JavaScript, Rust(newbie), Verilog(newbie)
Framework & Library: D3.js, Kernel Programming, Tensorflow, PyTorch, C++ STL
Tools: LaTeX, Vim, Git, Docker**,** GNU Toolchain, KVM, KGDB
Soft Skills: Open Source Engagement, Ask Smart Questions, Networking