



Sun Guangda 孙广大

- Email: guangda@u.nus.edu
- GitHub: [sgdxbc](#) (research) / [whoiscc](#) (personal)

Education

- Bachelor's degree from Xian JiaoTong University (2020)
- Ph.D candidate at National University of Singapore (2020-)

Interests

Research topics. Building faulty tolerance systems both inside data centers and in the wild planet-scale networks. Previous works also discovered various topics in networking.

Work with Rust, Python, C, Java, JavaScript, LaTeX, Seaborn, DPDK, Gurobi, Terraform, Vue, Stack Overflow, asynchronous programming, network programming, compiler frontend, interpreter, memory allocator / garbage collection.

Learning Coq, Haskell, P4, model checking, simulation, physically based rendering, zero knowledge proof.

Have been playing piano and listening to electronic music for a long time. Favorites: Chopin / (early) Deadmau5.

Works

Equip programmable switches with cryptographics and use them to improve ordering performance of BFT protocols.

Guangda Sun, Mingliang Jiang, Xin Zhe Khooi, Yunfan Li, Jialin Li
NeoBFT: Accelerating Byzantine Fault Tolerance Using Authenticated In-Network Ordering [pdf](#)
SIGCOMM '23, doi: 10.1145/3603269.3604874

Repository nus-sys/neobft-artifact

Efficient run-to-complete network function virtualization that is as robust as process-level isolated solutions.

Hao Li, Yihan Dang, **Guangda Sun**, Guyue Liu, Danfeng Shan, Peng Zhang
LemonNFV: Consolidating Heterogeneous Network Functions at Line Speed [pdf](#)
NSDI '23

Repository ants-xjtu/neptune

Generate protocol stack implementations of either standard or modded protocols for network functions with a flexible programming model and minimal coding effort.

Hao Li, Yihan Dang, **Guangda Sun**, Changhao Wu, Peng Zhang, Danfeng Shan, Tian Pan, and Chengchen Hu
Programming Network Stack for Physical Middleboxes and Virtualized Network Functions [pdf](#)
ToN '24, doi: 10.1109/TNET.2023.3307641

Hao Li, Changhao Wu, **Guangda Sun**, Peng Zhang, Danfeng Shan, Tian Pan, Chengchen Hu
Programming Network Stack for Middleboxes with Rubik [pdf](#)
NSDI '21

Repository ants-xjtu/rubik

Universal, state machine based immediate representation for network programming and the compilation toolchain around it.

Hao Li, Peng Zhang, **Guangda Sun**, Wanyue Cao, Chengchen Hu, Danfeng Shan, Tian Pan, Qiang Fu
Compiling Cross-Language Network Programs Into Hybrid Data Plane [pdf](#)
ToN '22, doi: 10.1109/TNET.2021.3132303.

Hao Li, Peng Zhang, **Guangda Sun**, Chengchen Hu, Danfeng Shan, Tian Pan, Qiang Fu

A Modular Compiler for Network Programming Languages [pdf](#)

CoNEXT '20, doi: 10.1145/3386367.3432063

Hao Li, Peng Zhang, **Guangda Sun**, Chengchen Hu, Danfeng Shan, Tian Pan, Qiang Fu

An Intermediate Representation for Network Programming Languages [pdf](#)

APNet '20, doi: 10.1145/3411029.3411030

Repository [ants-xjtu/sidfam-v3](#)

Projects

Academic research purposed networking codebase in Rust that is idiomatic, extensive and reliable (for catching deadlines).

Repository [neatsys/neatworks](#)

Editor extension that translates pressing space key into holding shift key, for typing camel case or underscore identifiers without involving little fingers.

Repository [whoiscc/shift-saver](#)

Marketplace [Shift Saver](#)

[Video](#)

Last revised on Jul 20 2024. Online version on [GitHub profile](#) / [pdf](#)