

Yiyan “Gaukas” Wang

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EDUCATION

University of Colorado Boulder

*B.Sc. in Electrical and Computer Engineering with **Summa Cum Laude***

GPA: **3.93** out of 4.0

Aug 2018 - May 2021

RESEARCH INTERESTS

Computer Engineering: Computer Architecture, VLSI

Computer Science: Algorithm Optimization, Censorship Circumvention, Consensus Protocol, Cybersecurity, Mathematical Proof, Privacy

RESEARCH PAPER

Acuerto, Fast Broadcast over RDMA

Co-authored with J. Izraelevitz, K. Silvers, G. Chockler, A. Gotsman

Expected 2022

MRTOM: Mostly Reliable Totally Ordered Multicast

Co-authored with Z. Liu, D. Grunwald, J. Izraelevitz, S. Ha

Submitted for EuroSys'22

Peering into the Abyss: Using WebRTC in Censorship Circumvention

Co-authored with J. Wampler, E. Wustrow

Expected 2022

EXPERIENCE

Intelepeer Cloud Communications LLC

Software Engineer

Remote/Denver, CO

Aug 2021 - Present

- Develop, maintain and optimize the Voice Service application/portal which connects clients to the DID/Toll-Free infrastructure.

Tunnel.Work

Founder, Chief Technical Officer

Remote

Aug 2017 - Present

- As a Software Engineer: Lead the development of *Golang* based backend softwares.
- As a DevOps: Maintain the Linux server clusters supporting the service infrastructure.
- As a Researcher: Research on latest censorship techniques and investigate on their potential circumvention.

University of Colorado Boulder

Researcher, Software Engineer @ Refraction Networking & Psiphon

Remote/Boulder, CO

Jan 2021 - Present

- Implement a WebRTC-based transport for **Conjure**, a novel robust censorship circumvention technology.

Research Assistant @ CU-NVM of Systems Lab

Apr 2020 - Apr 2021

- Improves an RDMA-based distributed framework and conduct critical benchmarks to evaluate its performance.

Teaching Assistant @ Department of Electrical, Computer and Energy Engineering

Jan 2020 - Apr 2021

- Concurrent Programming: Conduct *Code Reviews* and *Debug Sessions* for complex issues in multi-threading programs.

Sarus Lifting

Lead Software/Firmware DevOps Engineer

Boulder, CO

Aug 2020 - Apr 2021

- Lead Software Engineer: Provide critical designs and develops for a mission-critical distributed embedded system.
- DevOps: Administrate the code base, implement and maintain CI/CD workflows.

SELECTED PROJECTS & CONTRIBUTIONS

Chia-On-S3 | *Shell*

- Farm your Chia plots using Wasabi or any other S3-compatible service as storage!

PlaySync | *Python, Flask, PostgreSQL, Jinja2*

- A cross-platform Playlist Synchronization/Transfer Tool build with Flask-based Web Interface.

psrecord plus | *Python*

- Implemented Disk I/O record for psrecord, a well-known utilis for system resource consumption visualization.

Seed2SDP | *Golang, WebRTC*

- A seed-based SDP generator which simplify the signal process for WebRTC Protocol.

TranspoRTC | *Golang, WebRTC*

- A pluggable network transport implemented based on WebRTC datachannel.

Ulysses | *Golang, Gin, MySQL*

- A generic proxy/tunneling service manager built in Go.

WinProtocolHandler | *Rust, WinAPI*

- An attempt trying to simplify the Windows URI Scheme handling/management process.

DTLS Fingerprints Mismatch in pion/webrtc | *CVE-2021-28681*

Mar 2021

- A moderate-level CVE impacting a widely used WebRTC API library.

Canvas LMS File Oracle Attack

Sept 2021

- An exploit allowing any Canvas LMS user to bypass file permission restrictions.

CONTRIBUTIONS, AWARDS & HONORS

Undergraduate Outstanding Accomplishment Award | *University of Colorado Boulder, ECEE*

April 2021

Degree Latin Honor: Summa Cum Laude | *University of Colorado Boulder*

May 2021

Dean's List * 6 | *University of Colorado Boulder*

2018 – 2021

TRIVIA

Immigration Status: F-1 visa with Post-completion Optional Practical Training approved.

Extracurricular Activities: I'm a pianist, a gamer, and a content creator, in additon to being an engineer.