James Choncholas

Curriculum Vitae

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PhD student building systems for cryptography.

Education

2019–present **Doctor of Philosophy**, *Georgia Institute of Technology*, Atlanta, GA

2012–2016 **Bachelor of Science**, *University of Wisconsin*, Madison, WI

Industry Experience

Summer 2023 - Fall 2024 **Student Researcher**, *Google*, New York, NY
Privacy preserving machine learning.

Summer 2022 **Software Engineering Intern**, *Google*, Sunnyvale, CA
Technical Infrastructure for Google Cloud.

2016–2019 **Software Engineer**, *Sound Devices LLC*, Madison, WI
Technical lead on Xilinx ARM based devices and cross-platform mobile app development.

2015–2016 **Software Engineer Intern**, *Spacelabs Healthcare*, Madison, WI
Automated testing and software development for medical devices.

References

Advisor **Ada Gavrilovska**, *Georgia Institute of Technology*

Mentor **Karn Seth**, *Google*, New York

Conference Papers

[1] James Choncholas, Pujith Kachana, Mateus André, Phillips Gregoire, and Ada Gavrilovska. Snail: Secure single iteration localization. In *Privacy Enhancing Technologies Symposium (PETS)*, 2024.

[2] James Choncholas, Ketan Bhardwaj, Vlad Kolesnikov, and Ada Gavrilovska. Angler: Dark pool resource allocation. In *ACM/IEEE Symposium on Edge Computing (SEC)*, 2023.

[3] Ke-Jou Hsu, James Choncholas, Ketan Bhardwaj, and Ada Gavrilovska. DNS Does Not Suffice for MEC-CDN. In *ACM Workshop on Hot Topics in Networks (HotNets)*, 2020.

Workshop Papers

[4] James Choncholas, Ketan Bhardwaj, and Ada Gavrilovska. TGh: A TEE/GC hybrid enabling confidential FaaS platforms. In *Cryptology ePrint Archive*, 2023.

[5] James Choncholas, Ketan Bhardwaj, and Ada Gavrilovska. MPC benchmarking and optimization for edge systems. In *Semiconductor Research Corporation TECHCON*, 2021.

[6] James Choncholas, Ketan Bhardwaj, and Ada Gavrilovska. The performance argument for blockchain-based edge DNS caching. In *ACM/IEEE Symposium on Edge Computing (SEC)*, 2021.

Posters

[7] James Choncholas, Pujith Kachana, Mateus André, Phillips Gregoire, and Ada Gavrilovska. Snail: Secure single iteration localization. In *ACM/IEEE Symposium on Edge Computing (SEC)*, 2023.

[8] James Choncholas, Ketan Bhardwaj, and Ada Gavrilovska. GeoENS: Blockchain-based infrastructure for service discovery at the edge. In *USENIX Workshop on Hot Topics in Edge Computing (HotEdge)*, 2020.

Patents

[9] James Choncholas and Gregoire Phillips. Systems and methods for localization offloading using flexible multi-party computation and split device network resources for preserving privacy, 2023.

[10] James Choncholas, Gregoire Phillips, Héctor Caltenco, and Ali El Essaili. Method and system to implement privacy-preserving collaborative semantic mapping, 2024.