Kaiming Cheng

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RESEARCH AREAS

Security and privacy of emerging technologies, with a focus in Augmented/Mixed Reality.

EDUCATION

2020–Present **Ph.D. in Computer Science and Engineering**
University of Washington, Seattle, WA
Co-advisors: Tadayoshi Kohno, Franziska Roesner

2019–2020 **M.S. in Computer Science**
University of Virginia, Charlottesville, VA
Advisor: Yuan Tian

2015–2019 **B.A. in Computer Science & Music**
University of Virginia, Charlottesville, VA
Distinguished majors with high honors in CS and Music

PROFESSIONAL EXPERIENCES

2020– **University of Washington**, Research Assistant
with Tadayoshi Kohno & Franziska Roesner
Experimentally investigate Mixed Reality output attacks with real users [P.1]
Build a secure multi-applications XR system into ILLIXR (the first open-source XR system)

2020 **Amazon**, Software Developer Intern
Develop secure identity and access management tools for Amazon Elasticsearch and Kibana

2019-20 **University of Virginia**, Research Assistant
with Yuan Tian
Create a transfer learning framework that detects over-privileged applications [P.2].

2017–19 **University of Virginia**, Research Assistant
with Matthew Burtner & Mark Sherriff
Qualitatively evaluate music generation and visualization techniques in Virtual Reality [W.1].

PUBLICATIONS

Manuscripts and Pre-prints

2021 P.1 **Kaiming Cheng**, Jeffery Tian, Tadayoshi Kohno, and Franziska Roesner. Mixed Reality Output Attacks: An Experimental Investigation with Real Users. In *Under submission*, 2021

Peer-reviewed Conference and Journal Publications

2020 P.2 Faysal Hossain Shezan, **Kaiming Cheng**, Zhang Zhen, Yinzhi Cao, and Yuan Tian. Tkperm: Cross-platform permission knowledge transfer to detect overprivileged third-party applications. In *Network and Distributed Systems Security (NDSS) Symposium*, 2020

Lightly-Reviewed Posters, Extended Abstracts and Workshop Papers

2018 W.1 **Kaiming Cheng**. Melodypainter: Draw the melody in virtual reality. *New Interfaces for Musical Expression (NIME)*, 2018

SELECTED HONORS AND AWARDS

2020 Corin Anderson Endowed Research Fellowship (UW)

2019 Department of Computer Science Graduate Academic Excellence Fellowship (UVA)

2017–19 J. Sanford Miller Family Arts Scholarship (UVA)

INVITED TALKS

2021 **Mixed Reality Output Attacks: An Experimental Investigation with Real Users**
Phishing for Knowledge (PfK) session, Facebook (2021.9)

PROFESSIONAL SERVICE

Paper Reviewing

2021 **ACM Conference on Computer and Communications Security (CCS)**

Community Service

2021 **Co-organizer**, UW CSE PhD New Grad Mentor Program

2020 **Mentor**, UW CSE PhD program Pre-Application Review Service (PARS)

TEACHING EXPERIENCE

2019 **CS 5010 Programming and Systems for Data Science**
Teaching Assistant for Nada Basit, University of Virginia

2018 **CS 2150 Program and Data Representation**
Teaching Assistant for Mark Floryan, University of Virginia

MENTORING EXPERIENCE

2020– **Jeffery Tian** (UW CSE'21)
Co-supervised with Tadayoshi Kohno & Franziska Roesner, on MR security
Publication: P.1.

REFERENCES

Franziska Roesner *(doctoral advisor)*
Associate Professor
Paul G. Allen School of Computer Science and Engineering, University of Washington
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Tadayoshi Kohno *(doctoral advisor)*
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