

ZHOUYU LI

◇ zli85@ncsu.edu ◇ +1 404-488-5437

EDUCATION

- North Carolina State University** *Aug. 2021 - Present*
Doctor of Philosophy in Computer Science
- Georgia Institute of Technology** *Aug. 2019 - Dec. 2020*
Master of Science in Electrical and Computer Engineering
- Central South University** *Sep. 2015 - Jun. 2019*
Bachelor of Engineering in Electronic Information Engineering

PROJECT EXPERIENCE

- Microservice Profiling with Distributed Tracing and Kubernetes** *Mar. 2022 - May. 2024*
- Led a team of 12 students in developing a microservice-based application orchestrated with **Kubernetes**.
 - Deployed computer vision models as **Python Flask** web applications with **Gunicorn** and **Docker**.
 - Instrumented microservices with **Opentelemetry** and use **Kafka**-buffered **Jaeger** collector to gather over 100 concurrent network traces per second.
 - Built uncertainty-aware data models with **Gaussian Process**, **Bayesian Neural Network**, and **Probabilistic Neural Network** to profile the system and achieve over 95% of prediction coverage.
- Instance-level Privacy-preserving Image Transformation** *Nov. 2021 - Mar. 2023*
- Developed an privacy-preserving image transformation system with **OpenCV** and **PyTorch**.
 - Customized and trained deep-learning models including **YOLO** for object detection, **UNet** for semantic segmentation, and **Pix2pix** for conditional image synthesis to thwart 97% of re-identification attacks.
 - Publication: *INSPIRE: Instance-level Privacy-preserving Transformation for Vehicular Camera Videos* accepted by IEEE International Conference on Computer Communications and Networks (ICCCN), 2023.
- Improving Online Behavior Advertising Transparency** *Sep. 2020 - June. 2021*
- Built a **Nodejs** browser addon to extract and classify Ads with **OCR** and **Universal Sentence Encoder**
 - Publication: *When and Why Do People Want Ad Targeting Explanations? Evidence from a Four-Week, Mixed-Methods Field Study* accepted by IEEE Symposium on Security and Privacy (IEEE S&P), 2023.
- Stegoshare: A Private Way to Share Images On Social Networks** *May. 2020 - Oct. 2020*
- Designed an **image steganography** system using deep-learning technique to allow users to share images with trusted parties without being mined by data-hungry social network companies.
 - Implemented a browser extension with **Node.js** that allows users to hide their chosen images behind cover images generated by a **Generative Adversarial Network (GAN)**.
 - Publication: *Image DePO: towards gradual decentralization of online social networks using decentralized privacy overlays* accepted by ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW), 2022.
- Bit Whisperer** *Feb. 2020 - May. 2020*
- Designed a **cyber-physical communication system** to restrict communication on a solid surface.
 - Developed a smartphone application for the system in **Java** using **Android Studio** and **Processing**.
 - Publication: *Bit Whisperer: Enabling Ad-hoc, Short-range, Walk-Up-and-Share Data Transmissions via Surface-restricted Acoustics* accepted by ACM Symposium on User Interface Software and Technology (UIST), 2021.

TECHNICAL STRENGTHS

- Computer Languages** Python, C++, Node.js, Java, C#, C, Assembly Language, Shell script
- Frameworks and Softwares** Python Flask, PyTorch, Gurobi Optimizer, MATLAB, Android Studio