Qiangeng Yang

Gainesville, FL | q.yang@ufl.edu | qiangengyang.github.io

Research Interests: Human Factors in Cybersecurity, Social Engineering, User Privacy, NLP, Machine Learning, Malware, System Security

Academic Background

- **Ph.D., Electrical and Computer Engineering** Jan 2022 – Present
  University of Florida, Gainesville, Florida
  GPA: 4.00/4.00
- **Master of Science, Electrical and Computer Engineering** Aug 2019 – May 2021
  University of Florida, Gainesville, Florida
  GPA: 3.93/4.00
- **Bachelor of Science, Electronics and Information Engineering** Sep 2015 – Jun 2019
  Wuhan University of Science and Technology, Wuhan, Hubei, China
  GPA: 3.65/4.00

Research Experience

- **Research Assistant** Jan 2022 – Present
  Florida Institute for Cybersecurity Research, University of Florida
  - Active project: Automated Fact-Checking
    - Current focus: the performance of Google Fact Check Tools, which can be leveraged as a core part of automated fact-checking framework.
    - Methods: API programming, qualitative coding, correlation analysis, Kruskal Wallis H tests
    - Takeaways:
      - Only 15.8% of the 1,000 randomly selected false claims that have already been fact-checked retrieved results from Google Fact Check.
      - 91.54% of the retrieved fact-checking verdicts could be grouped into "false" or "partly false".
      - More than half (53.68%) of the results were from four well-known fact-checking sources, while the rest (46.32%) of the results were contributed by 21 sources; no claim was checked repeatedly by different sources.
      - Claims under the same topic yet in different wording were likely to retrieve different results.
      - No clear correlation or inferred relationship was identified between the linguistic characteristics of claims and their fact-checking results; weak evidence showed that more detailed claims may lead to fewer and more relevant results.
- **Graduate Research Volunteer** Sep 2020 – May 2021
  Florida Institute for Cybersecurity Research, University of Florida
  - Assisted in multiple projects related to social engineering.
- **Undergraduate Research Volunteer** Jan 2019 – June 2019
  Wuhan University of Science and Technology
  - Evaluated the accuracy, efficiency, and robustness of Faster R-CNN for object detection.

Publications

- (Under Review) **Q. Yang**, Y. J. Chung, J. Fernandes, and D. Oliveira, **Does Social Media Labeling Help with Content Moderation? An Analysis of State-Affiliation and Sentiment Labels on Twitter**, Mass Communication and Society, 2023
  - Subject: the effects of sentiment labels and state-affiliation labels on the recognition and behavior of users on Twitter.
  - Methods: user study, controlled experiments, sentiment analysis, ANOVA tests
  - Takeaways:
    - State-affiliation labels and negative sentiment labels are more likely to cause negative effects on young people.
    - Positive sentiment labels are more likely to have positive effects on the general population.
- (Under Review) T. Christensen, M. Silva, S. Gilda, **Q. Yang**, D. E. Capecci, and D. Oliveira, **The Use of Social, Behavioral, and Economic Theories in Human Factors Phishing Research**, ACM Computing Surveys, 2023
  - Subject: the level to which the existing publications regarding phishing leveraged the theories of behavioral science.
  - Methods: systematic literature review, qualitative coding and analysis
  - Takeaways:
    - Only a fifth of phishing studies leveraged SBE theories.
    - More significant theories that may be crucial for developing anti-phishing solutions (e.g., decision-making and deception detection) were not paid enough attention to by researchers.

Teaching Experience

- **Teaching Assistant** Jan 2023 – May 2023

  Department of Electrical and Computer Engineering, University of Florida
  - Course: EEL4837 - Programming for Electrical Engineers II, Spring 2023
    Topics: C++, Data Structure, Algorithm

Curriculum Projects

- **Survey of Traditional Algorithms of Face Recognition** Feb 2021 – Apr 2021
  - Studied holistic and local algorithms for face recognition, including Eigenfaces, Fisherfaces, and LBPH.
  - Developed in Python with OpenCV libraries to compile training and testing datasets and designed controlled experiments to measure and compare the confidence score and time cost of each algorithm.
  - Developed a command-line interface to facilitate the preference of training and evaluation, such as choosing the input type (image/video), detector, or recognizer.
- **Smart Parking System (IoT Proof of Concept)** Sep 2020 – Dec 2020
  - Developed a MongoDB database in Python, through which both the hardware end (infrared sensors, Raspberry Pi, etc.) and the user end (mobile app) were connected via socket programming.
  - Migrated the on-premise database to AWS DynamoDB via AWS DMS for cloud management.
  - Developed a simple Android app in Java to look up and reserve a parking space in real time.
- **Hashtag Counter** Feb 2020 – Apr 2020
  - Programmed in C++ to realize a Max Fibonacci Heap that can sort millions of hashtag records in milliseconds, each of which consists of a hashtag and a corresponding count.
  - Developed a command-line interface to query the top-n hashtags with the most counts while reading the records simultaneously.
- **Network Traffic Sniffer** Apr 2020

- Developed a packet sniffer in C to sniff data frames flowing through the internet.
- Evaluated the safety level of the internet traffic in real time by analyzing the headers of the sniffed data frames across TCP/IP layers and by calculating the percentage of SYN-ACK positive responses.

Professional Experience

- **Software Engineer**, Full-time — Nov 2021 – Dec 2021
  SumTotal Systems, Remote
  - Assisted in developing a user summary system in C# during one Sprint of Agile Scrum.

Skills

- **Programming Languages**: Python, C++, Java, C, MATLAB, MySQL, MongoDB, C#
- **Tools/Frameworks**: Git, AWS, Agile Scrum, Docker, Django, REST API, Wireshark, Stata, SPSS, Tableau

Service

- **Peer Reviewer**, The 7th Workshop on Online Abuse and Harms (WOAH) at ACL 2023 — May 2023
- **Student Representative**, Wuhan University of Science and Technology — Sep 2015 – Jun 2019
  - Responsible for student administrative and academic affairs.

Awards, Grants, and Honors

- **USENIX Student Travel Grant**, Boston, MA — Aug 2022
- **The Academic Achievement Award Scholarship**, University of Florida — Aug 2019
- **Graduation with Honors**, Wuhan University of Science and Technology — Jun 2019
- **Outstanding Undergraduate Student Award**, Wuhan University of Science and Technology — Jun 2019
- **Second Class Scholarship** (Top 5%), Wuhan University of Science and Technology — Sep 2018
- **Hui Ka-Yan Third Class Scholarship**, Wuhan University of Science and Technology — Nov 2017
- **Top Grade Scholarship** (Top 1%), Wuhan University of Science and Technology — Sep 2016 & Sep 2017