

Qingqing Dong

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Summary

Hi! I'm a computer scientist who loves using technology to promote social good. I enjoy working in interdisciplinary fields to create solutions that are ethical and just. I also like to volunteer my skills to support good causes and spread kindness in the world. When I'm not working, I'm a proud cat lover!

Education

M.Sc in Computer Science

Saarland University

Saarbrücken, Germany

October 2023 - Present

- **GPA: 1.0 / 4.0 (best: 1.0, worst 4.0)**
- **Affiliated Research Departments:** Interdisciplinary Institute for Societal Computing (I2SC), CISPA Helmholtz Center for Information Security, Chair of Software Engineering at Saarland University
- **Relevant Coursework:** Data Science, Software Engineering, Human Computer Interaction, Security, Data Networks, Cryptography

B.Eng in Information Security

Beijing University of Posts and Telecommunications (BUPT)

Beijing, China

September 2018 - June 2022

- **GPA: 3.64 / 4.0 (best: 4.0, worst 0.0)**
- **Honors: First Prize Scholarship, Merit Student** from the School of Cyberspace Security
- **Relevant Coursework:** Linear Algebra, Data Structures, Operating Systems, Discrete Mathematics, Advanced Mathematics

Publications

Grey-Box Fuzzing Based on Reinforcement Learning for XSS Vulnerabilities

Xuyan Song, Ruxian Zhang, **Qingqing Dong**, Baojiang Cui

Applied Sciences p. 2482. MDPI, 2023

A Malicious URL detection method based on CNN

Yu Chen, Yajian Zhou, **Qingqing Dong**, Qi Li

2020 IEEE Conference on Telecommunications, Optics and Computer Science (TOCS), 2020

Research Experience

Using NLP for Conceptual History Analysis

Research Assistant

Saarbrücken, Germany

November 2024 - May 2025

- Curated and annotated a comprehensive multilingual historical dataset from diverse archival sources, spanning across centuries and languages (English, French, German) for digital humanities research.
- Evaluated state-of-the-art topic modeling methods, benchmarking their effectiveness for concept induction within historical corpora.
- Developed an interdisciplinary framework that integrates natural language processing (NLP) techniques with historians to trace the evolution of concepts such as democracy, crisis, and culture/civilization.
- **Technical Skills:** Python, PyTorch, BERT, HuggingFace, Clustering, Topic Modeling, LLM.
- **Soft Skills:** Interdisciplinary Collaboration, Critical Thinking, Self-learning, Problem-solving.

Performance Modeling of Configurable Software Systems

Research Assistant

Saarbrücken, Germany

May 2024 - November 2025

- Developed a novel stepwise regression algorithm with domain knowledge on feature interactions, enhancing interoperability.
- Implemented an advanced diversified distance-based sampling strategy, significantly increasing the diversity of sampled configurations to yield more representative samples.
- Conducted extensive experimental evaluations on 10 real-world software systems using 4 distinct sampling strategies, showing a 10% improvement in accuracy.
- **Technical Skills:** Python, Scikit-learn, Linear Regression, Software Testing, SAT Solvers, Slurm, Git.
- **Soft Skills:** Teamwork, Logical Thinking, Presentation Skills, Problem-solving.

Jailbreak Attack Resistance on LLM-based Agents

Saarbrücken, Germany

Research Assistant

June 2024 - July 2024

- Conducted experiments on jailbreak vulnerabilities across 4 popular LLM agents, utilizing a dataset of 1,405 jailbreak prompts to evaluate attack success rates through automated methods and human assessment.
- Investigated and benchmarked current state-of-the-art jailbreak techniques, including EasyJailbreak, to assess their effectiveness using the established prompt dataset.
- Employed semantic similarity analysis with sentence embeddings to compare disparities between agents and their corresponding LLMs, conducted an ablation study to identify components most susceptible to jailbreak attacks.
- **Technical Skills:** Python, LangChain, LLM Agents, Jailbreak Attack, AI Security, Prompt Engineering, SBERT.
- **Soft Skills:** Teamwork, Innovative Thinking, Analytical Skill, Time Management.

SecureChain: Leveraging LLM to Automate Supply Chain Security Questionnaires

Saarbrücken, Germany

Team Leader

April 2024 - July 2024

- Led a team of 5 master's students in a collaborative research project, communicating with company stakeholders to deliver a software solution tailored for the local IT industry.
- Conducted requirements analysis and developed a pipeline with a user-friendly interface utilizing Retrieval-Augmented Generation (RAG), vector databases, and LLM to automate questionnaire responses for IT security teams.
- Wrote a full 10-page research paper submitted to the Workshop on Information Technologies and Systems (WITS 2025).
- **Technical Skills:** Python, HTML5, Javascript, RAG, Vector Database, LLM, Academic Writing.
- **Soft Skills:** Leadership, Stakeholder Communication, Presentation Skills, Project management.

Grey-Box Fuzzing for XSS Vulnerability Detection based on Reinforcement Learning

Beijing, China

Research Assistant

September 2022 - January 2023

- Designed and implemented a greybox web fuzzing framework that dynamically adapts attack vectors based on feedback from attack surface.
- Developed an XSS payload generation method utilizing reinforcement learning, defining the state, action, and reward functions within the context of XSS vulnerability detection.
- Conducted experiments to evaluate the effectiveness of the proposed method, comparing the efficacy of different reinforcement learning models in XSS vulnerability detection against 4 state-of-the-art web scanners.
- **Technical Skills:** Java, Web, Reinforcement Learning, DQN, XSS Attack, Web Security, Static Analysis, Fuzzing.
- **Soft Skills:** Team work, Time management, Problem Solving.

Tutoring

Information Security - Frontier Applications of Multi-source Collaborative Encryption

Online

Sun Yat-sen University (Advisor: Prof. Congduan Li)

July 2023 - October 2023

- Created tutorial content on cryptography. Led tutorials and helped students with personal research projects.

Computer Algorithm Design and Analysis

Shanghai, China

University of California, Berkeley (Advisor: Prof. Venkatesan Guruswami)

July 2022 - August 2023

- Developed tutorial content and exam questions. Graded assignments and presented solutions. Conducted tutorials online and in person.

Skills

Programming Python (Pandas, PyTorch, NumPy, Scikit-learn. etc.), Java, HTML/CSS, JavaScript, NLP

Miscellaneous \LaTeX , Markdown, Microsoft Office, Photoshop, Git.

Languages

English Professional proficiency

Chinese Native proficiency

German Elementary proficiency

Achievements

2025	Venue Technology Volunteer , Rhine-Ruhr 2025 FISU World University Games	Germany
2024	Exchange Student , T4EU Week (Erasmus+ Blended Intensive Programme)	Poland
2024	Best Group Project Award , Data Science summer semester	Germany
2024	First Prize Winner , Hackathon Mini-challenge by Mona-AI	Germany
2024	Fellowship Program , RIPE 89 Meeting	Czech Republic

References available upon request.