Ningfei Wang

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EDUCATION

- **Lehigh University** — Pennsylvania, USA
  M.S. in Computer Science; Overall GPA: 3.90/4.00 — *Aug 2017 – May 2019 (Expected)*
- **Beijing University of Posts and Telecommunications (BUPT)** — Beijing, China
  B.E. in Information Engineering; Overall GPA: 84.7/100.0; Major GPA: 88.7/100.0 — *Aug 2013 – Jun 2017*

RESEARCH EXPERIENCE

- **Code De-anonymization** — Lehigh University, USA
  Developer and Author, ALPS lab (Prof. Ting Wang) — *Mar 2018 - Jul 2018*
  - **Description**: Developed SUNDAE, a novel code de-anonymization framework which integrates both static and dynamic stylometry analysis. The paper has been accepted by the 11th ACM Workshop on Artificial Intelligence and Security.
  - **Contribution**: Crawled data from Google Code Jam Competition. Extracted static and dynamic features from the source codes. Built a classifier –Siamese Network to complete code de-anonymization, which outperformed the state-of-art methods.
  - **Github Repository**: https://github.com/ningfeiwang/Code_De-anonymization
- **UniGL: Preventing WebGL-based Browser Fingerprinting** — Lehigh University, USA
  Research Assistant, SEC lab (Prof. Yinzhi Cao) — *Oct 2017 - Jul 2018*
  - **Description**: Developed UniGL to rewrite OpenGL shading language (GLSL) programs and uniformized WebGL rendering procedure based on Chrome browser. Defended fingerprint from rendering different WebGL task. Submit the paper to IEEE S&P 2019.
  - **Contribution**: Converted the vertex shader to a JavaScript program and execute it. Rewrote floating-point operations in fragment shader via integer simulation. Developed a website which connects with back-end MySQL database to collect data (e.g., DataURL).
  - **Github Repository**: https://github.com/buaasniper/Webgl-rewrite and https://github.com/ningfeiwang/dwebgl.github.io
- **Browser Fingerprint** — Lehigh University, USA
  Developer, SEC lab (Prof. Yinzhi Cao) — *Oct 2017 - Dec 2017*
  - **Description**: Provided browser fingerprint data obtained from AutoTest and matched back to our database from the real world.
  - **Contribution**: Deployed browser fingerprint to collect OS and hardware level features(e.g., system fonts, browser plugin). Crawled all the package information from Chocolateys website and deployed AutoTest(automatically setting up a Virtual Machine to install Windows software, accessing our deployed website through Chrome browser to extract fingerprint and store in database, deleting the Virtual Machine and repeating the above operations until all the software are tested). Analyzed the distinct features and matched back to real-world database to figure out the influence of fingerprint from the installed softwares.
  - **Github Repository**: https://github.com/ningfeiwang/install_exe_auto
- **Botnet Detection** — Lehigh University, USA
  Research Assistant, WiNS lab (Prof. Mooi Choo Chuah) — *Sep 2017 - Dec 2017*
  - **Description**: Designed GUI, which was applied to the SEEDS 2017 Industrial Engagement Meeting in Lehigh University, and built simulations for botnet detection.
  - **Contribution**: Designed GUI to present network structure and virus-infected network nodes by Python. Conducted three types of network simulation: Query-Response-Acknowledge, Query(Command)-Acknowledge, Query(Command) only, by Omnet++.
- **The Implement of Managing Heterogeneous Cloud with OpenStack** — BUPT, China
  Developer and Author, Advisor: Prof. Yang Peng — *Sep 2016 - May 2017*
  - **Description**: Managed OpenStack cloud and VMware cloud by OpenStack and completed the graduation paper.
  - **Contribution**: Deployed OpenStack cloud and VMware cloud environments. Utilized Nova Module (computing module in OpenStack) to control OpenStack cloud and VMware Driver. Displayed the details of the two clouds management (e.g., memory usage, network) in webpages. Designed algorithms to solve cloud environments resource scheduling.
- **Inellient Omnidirectional Imaging System (VR)** — Tsinghua University, China
  Developer, Advisor: Prof. Xiangyang Ji — *Feb 2016 - Aug 2016*

- **Description**: Developed omnidirectional imaging system based on OpenCV whose real-time effect is comparable to the Singularity Vision.
- **Contribution**: Collected videos with six GoPro cameras, divided them into frames, complied and used Hugin to accomplish image stitching. Extracted features of images by Sift and Surf algorithm with OpenCV. Detected overlapping and generated mask by features. Optimized our system by refining the source code and parallelization.

- **Sun Shadow Position** BUPT, China
  Team Leader, Advisor: Prof. Caixia Kou *Sep 2015*
  - **Description**: Leaded our team to design a mathematical model of sun shadow position. Wrote a paper and won the national second prize.
  - **Contribution**: Implemented the Simulated Annealing Algorithm and fitted our data to obtain the parameters of formulas. Recorded the varying shadow vertex coordinates of pole over some time and calculated the position (i.e., longitude and latitude).
  - **Github Repository**: https://github.com/ningfeiwang/SA-Algorithm

INTERNSHIP

- **Machine Learning Intern** Cheetah Mobile, China
  Machine Learning Department *Mar 2017 - Jun 2017*
  - **Work Content**: Learned the algorithms of Deep Learning (e.g., Neural Networks, Convolutional Neural Network and Recurrent Neural Networks). Accomplish RNN and LSTM algorithms by C++. Optimized the Cheetahs English text input method by re-constructing the *Trie*.
  - **Achievement**: Grasped many machine learning algorithms(e.g., CNN, RNN, GRU, and LSTM). Trained data through GPU and enhanced my operation of Linux and my knowledge of input methods.

PUBLICATION

1) *Integration of Static and Dynamic Code Stylometry Analysis for Programmer De-anonymization*
Ningfei Wang, Shouling Ji, Ting Wang
The 11th ACM Workshop on Artificial Intelligence and Security (AISec 2018)

HONORS & AWARDS

- **Third Prize,** Scholarship in BUPT for Three Years 2014-2016
- **Excellent Vice-Minister Honor,** Sports Department of Students Union, BUPT 2016
- **Second Place,** the Game of Go on The BUPT Mind Sports Games 2016
- **Second Prize in Beijing Region,** National College Students Innovative Projects 2016
- **Honorable Mention,** Interdiscipliary Contest in Modeling 2016
- **Second Prize,** Contemporary Undergraduate Mathematical Contest in Modeling 2015

SKILLS & HOBBIES

- **Programming Language:** Python, C++, C, Javascript, Matlab
- **Framework:** MySQL, Scikit-Learn, OpenCV, Tensorflow
- **Hobbies:** Game of GO, Accordion