

Kah Hin Lai

<https://kahhinlai.github.io>

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EDUCATION

- **University of Minnesota Twin Cities** Minneapolis, MN
Master of Science in Computer Science; GPA: 3.9 *Sep. 2019 – May. 2021*
- **University of Minnesota Twin Cities** Minneapolis, MN
Bachelor of Science in Computer Science, Minor in Mathematics; GPA: 3.621 *Sep. 2016 – Dec. 2018*

EXPERIENCE

- **Veritas Technologies LLC.** Minneapolis, MN
Software Engineer *Sep 2021 - Current*
 - **NetBackup and MSDP:** Working on fixing defects and development of the features of NetBackup and MSDP, for example, Universal Share, Instant Access and WORM Restricted Shell.
- **Minnesota Traffic Observatory, University of Minnesota Twin Cities** Minneapolis, MN
Software Developer *Sep 2017 - Dec 2020*
 - **Develop Automation tools with API:** Develop Automation tool for a traffic simulation software with given API.
 - **Radar Data Collection Driver:** Develop data collection services in Raspberry Pi(s) which are deployed in the road for data collection.
 - **Software Update:** Update existing real-time traffic alarm software such as fixing existing bugs, modify interfaces according to needs, implements additional features to support additional purposes.
 - **Database Filtering Tools:** Filter the noises of the existing data in the database automatically with python scripts.
 - **Traffic Data Visualization and Extraction Tool:** Python Application that visualizes the traffic data from the database in different diagrams. Allow users to interact with the data.
 - **Python Library Migration:** Maintaining existing git repositories and update the code to python3 in different branches.
 - **Tracker Parameter Calibration:** Implement a genetic-algorithm based method to calibrate the parameter of the vehicle object tracker to optimize the performance of the tracker.

PROJECTS

- **Android Security Research, overlays:** Found bugs in the Android Operating System that are related to overlays feature. The bugs could lead to local escalation of privilege with no additional execution privileges needed. (see CVE-2019-2131, CVE-2019-9380 for details)
- **Occurens:** Class project for user interface design course. This is an Android scheduling application that is written in Kotlin and using firebase as our backend infrastructure. The application provides features such as group chats, the shared calendar for each group, and the ability to schedule an event.
- **Classification-based Image Super Resolution:** Research experiment (class project) that first classify objects from the image with YOLO then merge the outputs of SRCNN models based on the objects.

PROGRAMMING SKILLS

- **Languages:** Python, C/C++, SQL, JavaScript, Java

RELEVANT COURSES

- **Graduate Courses:** Introduction to Machine Learning, Security/Privacy in Computing, Securing Cyberspace (Fundamentals), Introduction to Compiler, Computer Graphics I, Software Engineering II, Computer Visions, Spatial Data Science, Analysis of Numerical Algorithms, Advanced Database System
- **Undergrad Cores:** Advance Programming Principles, Algorithms and Data Structures, Program Design and Development, Introduction to Operating Systems, Internet Programming, Software Engineering I, Operating Systems, Advanced Algorithms And Data Structures, User Interface Design, Introduction to Computer Security