

ALAN WANG

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EXPERIENCE:

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- Software Developer Intern @ Jane Street** May 2024 – August 2024
- Worked with billions of trade orders submitted to the SEC
 - Improved the efficiency and utilization of server's used by the entire firm
- Computer Science Intern @ D. E. Shaw Research** May 2023 – August 2023
- Researching docking and non-equilibrium FE calculation methods
 - Writing system software to run thousands of simulations on Anton3 ASICs
 - Writing embedded code that achieves 2.5x speedup on docking simulations
- Research Assistant @ FPSG Lab** September 2022 – Current
- Advised under Professor Chris Fletcher with collaborators across several institutions
 - Exploring new microarchitectural side channel techniques and attacks
 - Reverse engineering microarchitectural structures
 - Declassiflow project: modelling non-speculative information flow to improve performance, implemented using LLVM
- Research Aide @ Argonne National Lab** May 2022 – May 2023
- Working with NVIDIA's Bluefield-3 Data Processing Unit (DPU) for zero trust network architectures
 - Finding critical errors by instrumenting Portable Batch System (PBS) for Argonne's extreme scale systems
 - Developed and programmed a command line interface for Argonne's UserBase3 and used by all Argonne admins
 - Designed and collected data for a Python concurrency research project for the Operations division director
- Visiting Student @ Argonne National Lab** Feb 2022 – May 2022
- Led the design of a ROS2 interface for Argonne's self-driving lab
 - Built key infrastructure for Argonne's self-driving lab
- Undergraduate Research Assistant @ Northwestern University** Feb 2021 – June 2022
- Researched the vulnerability INTEL-SA-00086 to gain access to Intel's most secure piece of hardware (microcode project)
 - Worked on the FPVM project led by Professor Peter Dinda
- DoE College Bound Research Intern (CBRP) @ Argonne National Lab** June – August 2021
- Started the design of a ROS2 interface for Argonne's self-driving lab
 - Created important building blocks for future work in Argonne's self-driving lab
- SEAP Intern @ Office of Naval Research** June – August of 2019, 2020
- Led the development of autonomous bomb-defusing robots
 - Repaired a variety of programming errors related to navigation, object recognition, and arm manipulation

PUBLICATIONS:

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- **Hardware Security**, first author, *under review* '25
 - **Declassiflow**, second author, *ACM CCS* '23
 - **Mars Ice Thermal Harvesting Rig & ISRU Laboratory (MITHRIL)**, *ASCEND* '22

ACHIEVEMENTS:

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- **TBA**, 2024
 - **Dean's List**: UIUC's Grainger College, 2021 – Current
 - **2nd Place Overall**: NASA RASC-AL 2022 (published *ASCEND* '22)
 - **Gold Level**: USA Computing Olympiad (USACO)
 - **Round 2 qualifier**: Google Codejam coding competition

SKILLS:

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- **Programming**: C/C++, Python, Bash, Java, x86-64, CUDA, Verilog, OCaml
 - **Others**: Linux, ROS 1 & 2, OS X, Git, LLVM

EDUCATION:

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- BSMS in Computer Science, University of Illinois at Urbana-Champaign** 2021-2025
- **GPA**: 4.0 **Advisor**: Professor Chris Fletcher
 - **Activities**: Intramural Soccer, Triathlon club, and ISS RASC-AL member

COMMUNITY SERVICE:

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- Taught a free month-long Java course to over 100 K-12 students in the Chicagoland area, June 2020
 - Taught a free month-long competitive programming course to 30 K-12 students in the Chicagoland area, Jan 2021
 - ACM Mentor – Helping incoming freshman transition to college life, June 2022 - Current