

ALAN WANG

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EXPERIENCE:

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| Software Developer @ Jane Street | May 2024 – Current |
| <ul style="list-style-type: none">Working on software to process data faster | |
| CS Intern @ D. E. Shaw Research | May 2023 – August 2023 |
| <ul style="list-style-type: none">Researching docking and non-equilibrium FE calculation methodsWriting system software to run thousands of simulations on Anton3 ASICsWriting embedded code that achieves 2.5x speedup on docking simulations | |
| Research Assistant @ FPSG Lab | September 2022 – Current |
| <ul style="list-style-type: none">Advised under Professor Chris Fletcher with collaborators across several institutionsExploring new microarchitectural side channel techniques and attacksReverse engineering microarchitectural structures to leak secretsDeclassiflow project: modelling non-speculative information flow to improve performance, implemented using LLVM | |
| Research Aide @ Argonne National Lab | May 2022 – May 2023 |
| <ul style="list-style-type: none">Working with NVIDIA's Bluefield-3 Data Processing Unit (DPU) for zero trust network architecturesFinding critical errors by instrumenting Portable Batch System (PBS) for Argonne's extreme scale systemsDeveloped and programmed a command line interface for Argonne's UserBase3 and used by all Argonne adminsDesigned and collected data for a Python concurrency research project for the Operations division director | |
| Visiting Student @ Argonne National Lab | Feb 2022 – May 2022 |
| <ul style="list-style-type: none">Led the design of a ROS2 interface for Argonne's self-driving labBuilt key infrastructure for Argonne's self-driving lab | |
| Undergraduate Research Assistant @ Northwestern University | Feb 2021 – June 2022 |
| <ul style="list-style-type: none">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 |
| <ul style="list-style-type: none">Started the design of a ROS2 interface for Argonne's self-driving labCreated important building blocks for future work in Argonne's self-driving lab | |
| Science and Engineering Apprenticeship Program (SEAP) Intern | June – August of 2019, 2020 |
| <ul style="list-style-type: none">Led the development of autonomous bomb-defusing robotsRepaired a variety of programming errors related to navigation, object recognition, and arm manipulation | |

PUBLICATIONS:

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- Hardware Security**, first author, *under submission* '25
 - Operating Systems**, *under submission* '24
 - Declassiflow**, second author, *ACM CCS* '23
 - Mars Ice Thermal Harvesting Rig & ISRU Laboratory (MITHRIL)**, *ASCEND* '22

ACHIEVEMENTS:

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- 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 |
| <ul style="list-style-type: none">GPA: 4.0 Advisor: Professor Chris FletcherActivities: 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