

# ALAN WANG

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## EXPERIENCE:

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| <b>Software Developer Intern @ Jane Street</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>May – August 2024</b>              |
| <ul style="list-style-type: none"><li>• Worked with billions of trade orders submitted to the SEC</li><li>• Improved the efficiency and utilization of server's used by the entire firm</li></ul>                                                                                                                                                                                                                                                                                                              |                                       |
| <b>Computer Science Intern @ D. E. Shaw Research</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>May – August 2023</b>              |
| <ul style="list-style-type: none"><li>• Researching docking and non-equilibrium FE calculation methods</li><li>• Writing system software to run thousands of simulations on Anton3 ASICs</li><li>• Writing embedded code that achieves 2.5x speedup on docking simulations</li></ul>                                                                                                                                                                                                                           |                                       |
| <b>Research Assistant @ FPSG Lab</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>September 2021 – Current</b>       |
| <ul style="list-style-type: none"><li>• Advised under Professor Chris Fletcher with collaborators across several institutions</li><li>• Exploring new microarchitectural side channel techniques and attacks</li><li>• Reverse engineering microarchitectural structures</li><li>• Declassiflow project: modelling non-speculative information flow to improve performance, implemented using LLVM</li></ul>                                                                                                   |                                       |
| <b>Research Aide @ Argonne National Lab</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>May 2022 – May 2023</b>            |
| <ul style="list-style-type: none"><li>• Working with NVIDIA's Bluefield-3 Data Processing Unit (DPU) for zero trust network architectures</li><li>• Finding critical errors by instrumenting Portable Batch System (PBS) for Argonne's extreme scale systems</li><li>• Developed and programmed a command line interface for Argonne's UserBase3 and used by all Argonne admins</li><li>• Designed and collected data for a Python concurrency research project for the Operations division director</li></ul> |                                       |
| <b>Visiting Student @ Argonne National Lab</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Feb – May 2022</b>                 |
| <ul style="list-style-type: none"><li>• Led the design of a ROS2 interface for Argonne's self-driving lab</li><li>• Built key infrastructure for Argonne's self-driving lab</li></ul>                                                                                                                                                                                                                                                                                                                          |                                       |
| <b>Undergraduate Research Assistant @ Northwestern University</b>                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Feb 2021 – June 2022</b>           |
| <ul style="list-style-type: none"><li>• Researched the vulnerability INTEL-SA-00086 to gain access to Intel's most secure piece of hardware (microcode project)</li><li>• Worked on the FPVM project led by Professor Peter Dinda</li></ul>                                                                                                                                                                                                                                                                    |                                       |
| <b>DoE College Bound Research Intern (CBRP) @ Argonne National Lab</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>June – August 2021</b>             |
| <ul style="list-style-type: none"><li>• Started the design of a ROS2 interface for Argonne's self-driving lab</li><li>• Created important building blocks for future work in Argonne's self-driving lab</li></ul>                                                                                                                                                                                                                                                                                              |                                       |
| <b>SEAP Intern @ Office of Naval Research</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>June – August of 2019 and 2020</b> |
| <ul style="list-style-type: none"><li>• Led the development of autonomous bomb-defusing robots</li><li>• Repaired a variety of programming errors related to navigation, object recognition, and arm manipulation</li></ul>                                                                                                                                                                                                                                                                                    |                                       |

## PUBLICATIONS:

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- **EMT**, planned for submission to *OSDI '25*
  - **Peek-a-Walk**, first author, *to appear in IEEE S&P (Oakland) '25*
  - **Declassiflow**, second author, *ACM CCS '23*
  - **Mars Ice Thermal Harvesting Rig & ISRU Laboratory (MITHRIL)**, *ASCEND '22*

## ACHIEVEMENTS:

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- **Siebel Scholar Award**, 2025
  - **Dean's List**, UIUC's Grainger College
  - **2<sup>nd</sup> Place Overall**, NASA RASC-AL 2022 (published ASCEND '22)
  - **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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| <b>BSMS in Computer Science, University of Illinois at Urbana-Champaign</b>                                                                                                                    | <b>2021-2025</b> |
| <ul style="list-style-type: none"><li>• <b>GPA:</b> 4.0      <b>Advisor:</b> Professor Chris Fletcher</li><li>• <b>Activities:</b> Intramural Soccer, Triathlon club, and ACM mentor</li></ul> |                  |

## 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