

Yue Niu

 yuesforest.com |  github.com/kaonn |  yueyueniu@gmail.com

EDUCATION

2018 - present Ph.D. in Computer Science at **Carnegie Mellon University**
2014 - 2017 B.S. in Computer Science, Minor in Physics at **Carnegie Mellon University**

ACADEMIC POSITIONS

Aug 2018 - present **Doctoral student**, advised by Prof. Robert Harper
Topic: *Logical frameworks for cost analysis*
Publications: Niu and Harper (2023), Niu, Sterling, et al. (2022), and Grodin et al. (2024)

Jan 2018 - July 2018 **Research assistant**, advised by Prof. Jan Hoffmann
Topic: *Static analysis for functional programs with garbage collection*
Publications: Niu and Hoffmann (2018)

FELLOWSHIPS

Aug 2020 - Aug 2023 2020 National Defense Science and Engineering Graduate (NDSEG) Fellowship Award

WORK EXPERIENCE

May - Aug 2016 **Software dev. intern**, Viavi Solutions
Project: *Accelerated data-plane packet receiver*

May - Aug 2015 **Software dev. intern**, Testive
Project: *Parsing pictures of Scantron sheets*

PROJECTS

calf: a calf-aware logical framework [Project link](#)

TEACHING ASSISTANT

Fall 2022, Types and Programming languages *with Prof. Jan Hoffmann*
Fall 2020, Foundations of Programming languages *with Prof. Robert Harper*

PUBLICATIONS

Grodin, Harrison et al. (Jan. 2024). “Decalf: A Directed, Effectful Cost-Aware Logical Framework”. In: *Proc. ACM Program. Lang.* 8.POPL. DOI: [10.1145/3632852](https://doi.org/10.1145/3632852). URL: <https://doi.org/10.1145/3632852>.

Niu, Yue and Robert Harper (2023). “A Metalanguage for Cost-Aware Denotational Semantics”. In: *2023 38th Annual ACM/IEEE Symposium on Logic in Computer Science (LICS)*, pp. 1–14. DOI: [10.1109/LICS56636.2023.10175777](https://doi.org/10.1109/LICS56636.2023.10175777).

Niu, Yue, Jonathan Sterling, et al. (Jan. 2022). “A Cost-Aware Logical Framework”. In: 6.POPL. DOI: [10.1145/3498670](https://doi.org/10.1145/3498670). arXiv: [2107.04663](https://arxiv.org/abs/2107.04663) [cs.PL].

Niu, Yue and Jan Hoffmann (2018). “Automatic Space Bound Analysis for Functional Programs with Garbage Collection”. In: *LPAR-22. 22nd International Conference on Logic for Programming, Artificial Intelligence and Reasoning*. Ed. by Gilles Barthe et al. Vol. 57. EPiC Series in Computing. EasyChair, pp. 543–563. DOI: [10.29007/xkwx](https://doi.org/10.29007/xkwx). URL: <https://easychair.org/publications/paper/dcnD>.

MANUSCRIPTS

Niu, Yue and Robert Harper (2020). *Cost-Aware Type Theory*. arXiv: [2011.03660](https://arxiv.org/abs/2011.03660) [cs.PL].