

Alexander Root

Ph.D. Student in Computer Science, admitted Autumn 2022

Teaching

COURSES

2024-25

- Domain-Specific Language Design Studio: CS 343S (Spr)

2023-24

- Domain-Specific Language Design Studio: CS 343S (Spr)

Publications

PUBLICATIONS

- **Fast Autoscheduling for Sparse ML Frameworks** *International Symposium on Code Generation and Optimization (CGO)*
Yan, B., Root, A. J., Gale, T., Broman, D., Kjolstad, F.
2026: 28-43
- **Compiler Support for Sparse Tensor Convolutions** *PROCEEDINGS OF THE ACM ON PROGRAMMING LANGUAGES-PACMPL*
Liu, P., Root, A. J., Xu, A., Li, Y., Kjolstad, F., Bik, A. J. C.
2024; 8 (OOPSLA)
- **Compilation of Shape Operators on Sparse Arrays** *PROCEEDINGS OF THE ACM ON PROGRAMMING LANGUAGES-PACMPL*
Root, A. J., Yan, B., Liu, P., Gyurgyik, C., Bik, A. J. C., Kjolstad, F.
2024; 8 (OOPSLA)
- **Fast Instruction Selection for Fast Digital Signal Processing**
Root, A. J., Ahmad, M., Sharlet, D., Adams, A., Kamil, S., Ragan-Kelley, J.
edited by Aamodt, T. M., Jerger, N. E., Swift, M.
ASSOC COMPUTING MACHINERY.2023: 125-137
- **Vector Instruction Selection for Digital Signal Processors using Program Synthesis**
Ahmad, M., Root, A. J., Adams, A., Kamil, S., Cheung, A.
edited by Falsafi, B., Ferdman, M., Lu, S., Weinisch, T.
ASSOC COMPUTING MACHINERY.2022: 1004-1016