

Milin Kodnongbua

mkodnongbua.com · github.com/milmillin

milink@cs.washington.edu · +1-206-294-2216
Providence, RI · Open to U.S. locations

Education

- **University of Washington** Seattle, WA
Ph.D. in Computer Science (Advisor: Prof. Adriana Schulz, GRAIL) *Sep. 2022 – Jun. 2027 (expected)*
 - Research: 3D/CAD generation and editing with deep learning and domain-specific languages; gradient-based shape-program optimization (Design for Descent) and text-driven physical composition (Diceplay).
- **University of Washington** Seattle, WA
B.S. in Computer Science and Economics, Magna Cum Laude, Departmental Honors in CS *Sep. 2018 – Jun. 2022*
 - GPA: 3.93/4.00

Publications (* equal contribution)

- **Diceplay: A Modular Canvas for Physical Image Composition**
Milin Kodnongbua*, Zihan Zhang*, Shishi Xiao*, Vivian Li, Heather Robertson, Rulin Chen, David Laidlaw, Adriana Schulz. *SIGGRAPH 2026 Conference Papers*.
- **Design for Descent: What Makes a Shape Grammar Easy to Optimize?**
Milin Kodnongbua*, Zihan Zhang*, Nicholas Sharp, Adriana Schulz. *SIGGRAPH Asia 2025 Conference Papers*.
- **Dense Server Design for Immersion Cooling**
Milin Kodnongbua, Zachary Englhardt, Ricardo Bianchini, Rodrigo Fonseca, Alvin Lebeck, Daniel S. Berger, Vikram Iyer, Fiodar Kazhamiaka, Adriana Schulz. *ACM Transactions on Graphics (SIGGRAPH Asia 2024)*.
- **ReparamCAD: Zero-shot CAD Re-Parameterization for Interactive Manipulation**
Milin Kodnongbua, Benjamin Jones, Maaz Ahmad, Vladimir Kim, Adriana Schulz. *SIGGRAPH Asia 2023 Conference Papers*.
- **B-Rep Matching for Collaborating Across CAD Systems**
Benjamin Jones*, James Noeckel*, Milin Kodnongbua*, Ilya Baran, Adriana Schulz. *ACM Transactions on Graphics 42(4) (SIGGRAPH 2023)*.
- **Self-Supervised Representation Learning for CAD**
Benjamin Jones, Michael Hu, Milin Kodnongbua, Vladimir Kim, Adriana Schulz. *CVPR 2023*.
- **Computational Design of Passive Grippers**
Milin Kodnongbua, Ian Good, Yu Lou, Jeffrey Lipton, Adriana Schulz. *ACM Transactions on Graphics 41(4) (SIGGRAPH 2022)*.

Research Experience

- **Adobe** Seattle, WA
Research Intern *Jun. 2026 – Sep. 2026*
 - **Automatic resizing of Adobe Express templates.** Developed a neuro-symbolic method that infers the document structure of artist-made design templates and re-lays out their elements for new target sizes while preserving content, reading order, and style.
- **Microsoft** Redmond, WA
Research Intern *Jun. 2023 – Sep. 2023*
 - **Dense server design for immersion cooling.** Formulated 3D layouts as a mixed-integer linear program and paired it with a genetic algorithm for scalability. The published study reports 25–52% lower server volume than traditional flat designs (ACM TOG, SIGGRAPH Asia 2024).
- **University of Washington** Seattle, WA
Undergraduate Research Assistant; Teaching Assistant *Apr. 2020 – Jun. 2022*
 - **Passive grippers.** Co-designed a 3D-printable passive gripper and collision-free grasp trajectory for a given object and pose (ACM TOG, SIGGRAPH 2022).
 - **Knitting simulation.** Implemented a yarn-level knitted-cloth simulator in C++ and a pipeline that converts 3D stitch meshes into yarn curves.
 - **Teaching.** TA for Computer Graphics (3 quarters; ported the course project from C++ to Unity/C#) and Computer Networks (3 quarters).

Honors

- **ICPC World Finals** Honorable Mention (2022); **ICPC North America Championship** 10th place (2022); **ICPC Pacific Northwest Regional** 1st place (2021), top 10 (2018–2020)
- **International Olympiad in Informatics** Bronze Medal (2018); **Asia-Pacific Informatics Olympiad** Bronze Medal (2018)

Skills

- **Research areas:** geometry processing, CAD and B-reps, shape and program optimization, domain-specific languages, deep learning, mixed-integer programming
- **Languages & tools:** Python, C/C++, C#, TypeScript; PyTorch, CGAL, libigl, Gurobi, OpenMP, CMake, Git