

# Emily Sillars

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## EDUCATION

### Columbia University

*MS in Computer Science*

New York, NY

Expected May 2023

- Software Systems Track

### New York University: Tandon School of Engineering

*B.S. in Computer Science, Minor in Game Design*

Brooklyn, NY

Jan 2021

- Graduated Magna Cum Laude, recipient of the Josh Goldfaden Award and Founders Day Award

### The Center for Cartoon Studies

*One Year Certificate*

White River Junction, VT

May 2016

- A program centered on all aspects of creation and dissemination of comics, graphic novels and other visual narrative forms
- Transformed art into a finished reading format using digital and traditional drafting techniques, screen printing, hand book construction, and Adobe Creative Suite programs
- Created six self-published works, four individual and two anthology comics projects

## PROFESSIONAL EXPERIENCE

### Geopipe

*Research & Development Intern*

New York, NY

Jun 2022 - Aug 2022

- Used Racket and C++ to update and complete a three-year-old visualizer project for Geopipe's in-house DSL.
- Documented, fixed, updated, and enhanced DSL related regression tests; caught and fixed a bug in DAE file generation
- Communicated with supervisor daily over slack message and video call; reported progress to a seventeen-person team at bi-weekly sprint meetings
- Prepared and delivered an 8-minute presentation on Geopipe's in-house DSL at the Intern Showcase

*Unity Development Intern*

Jun 2020 - Aug 2020

- Resolved three bugs in Geopipe's Unity plug-in and expanded documentation on its functionality
- Developed a 3D game demo featuring Geopipe's 3D city models using Unity with C#
- Communicated with supervisor clearly over slack message and video call, defined SMART goals and presented progress to a ten-person team at weekly stand-up meetings

## ACADEMIC EXPERIENCE

### Columbia University: Fu Foundation School of Engineering

*Research Team Member: SSLANG (Sparse Synchronous Language)*

New York, NY

Sep 2021 – Present

- Collaborate with research partner to investigate and adapt parts of GHC's inlining strategy for SSLANG; add a static inlining optimization pass to the SSLANG compiler, written in Haskell
- Supervise four other team members' projects: host meetings twice a week, provide guidance, next steps, and review code
- Added partial application of data constructors to the compiler; enhanced compiler's IR pretty printer
- Added algebraic data types to the SSLANG code generator, producing C code that links with the runtime system

*Teaching Assistant: Parallel Functional Programming*

Sep 2022 – Present

- A course covering functional programming in Haskell, with the second half emphasizing parallel programming in Haskell
- Clarify lecture concepts and homework questions in a one-on-one setting with students during weekly office hours
- Oversee 11 students' end of semester parallel programming projects in Haskell; provide feedback on project proposals, act as first point of contact for project related questions via email or in-person appointment.

### New York University: Tandon School of Engineering

*Head Teaching Assistant: Introduction to Operating Systems*

Brooklyn, NY

Sep 2020 - Dec 2020

- Planned and lead weekly recitation activities on C programming and Operating Systems concepts
- Trained two other TAs by encouraging participation in recitation planning and delegating presentation tasks
- Created and organized grading rubrics and answer keys for all five assignments
- Managed homework grading by distributing grading guidelines to six fellow TAs, establishing deadlines, and clarifying grading related questions for each assignment

*Teaching Assistant: Introduction to Operating Systems*

Sep 2019 - May 2020

- Clarified homework questions and lecture concepts in a one-on-one setting with students during weekly office hours
- Communicated with over a hundred students over email and course forum boards to resolve homework and lecture questions
- Conducted review sessions and weekly recitations along with fellow teaching assistants

## SKILLS

Programming: C, C++, Unity Game Engine, C#, Java, Haskell, Racket, OCaml

Web Development: HTML, CSS, JavaScript, jQuery

Graphic Design: Adobe Photoshop, Adobe InDesign, Adobe Illustrator