

Andrew Pareles

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EDUCATION

Cornell University • BSc in Computer Science

August 2017 – May 2021

- **Courses:** Distributed Systems, Computer Networks, Assembly, Operating Systems
- Dean's List, Wind Symphony, Minor in Physics, Minor in Mathematics

TECHNICAL SKILLS

Languages: Python, Java, C, C++, LUA, TypeScript, JavaScript, Rust, OCaml

Technologies: Linux, Git, Docker, PostgreSQL, MySQL, PyTorch, Node.js

SOFTWARE EXPERIENCE

Comm2, New York, NY

March 2023 – Present

Software Engineer / Co-Founder

- Launched a website to communicate technical ideas efficiently, which evolved into a coding website
- Built our backend from scratch, including a load balanced API for users to submit code, scalable webhook services for emails & payments, and custom formats for storing content (Docker, Misc APIs, PostgreSQL)
- Designed novel Python curriculum, iterating with users weekly & growing to 3k+ users/month
- Created well-designed REST API code so that TypeScript typing works even in frontend fetch() calls
- Partnered with universities, onboarded TAs over zoom, and provided readouts of student progress weekly

Johns Hopkins APL, Laurel, MD

August 2022 – March 2023

Software Engineer

- Implemented a Python tool that assigns confidence scores to distributed systems using statistics & logic
 - Improved the readability of an old Python tool, turning inline computations into modularized functions
 - My work on statistics and Beta distributions was published in a journal paper
 - Critical government systems use the tool to assure system confidence
- Led a project to estimate the resources needed to run a quantum computer for a first-time sponsor
 - Collaborated with 5 postdocs to spec out hardware assumptions & project goals
 - Implemented a production codebase in PyTorch
 - Guided monthly sponsor meetings and increased sponsor funding by 150%

Sense Technologies, New York, NY

June 2019 – August 2019

Software Engineer Intern

- Worked closely with the CEO on a movie-recommending chatbot AI
- Rewrote tokenization algorithm & retrained model, improving response quality & boosting retention by 15%
- Reduced cost-per-message by 8% by caching common responses
- Deployed to Google Assistant. Google's recommendation algorithm sent us 100,000+ new visitors

RESEARCH

Columbia University (Research Consultant), Remote

May 2021 – June 2022

- Wrote Python tools to simulate wavefunctions in materials, currently used to research defects in materials

Cornell University (Student Researcher), Ithaca, NY

August 2020 – August 2021

- With Prof. Sampson, I designed performant algorithms for GPUs in CUDA and C++

PROJECTS

io game

reelers.io is a multiplayer browser game that uses WebSockets/TCP

markdown parser

[custom-markdown](#) is a parser that converts markdown text -> AST -> React

3D renderer

[3DTest](#) is a 3D renderer without any external graphics libraries