

Andrew Pareles

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EDUCATION

Cornell University • BSc in Computer Science

August 2017 – May 2021

- **Courses:** Data Structures, Graph Theory, Machine Learning, OSs and Assembly, Honors Math & Physics
- Minor in Physics, Minor in Mathematics, Dean's List, Wind Symphony, APT Puzzle Tournament

TECHNICAL SKILLS

Languages: TypeScript, Python, C, Java, LUA, OCaml

Technologies: React, Node.js, HTML, CSS, Tailwind, Next.js, PostgreSQL, AWS, Vercel, Git, Docker

SOFTWARE EXPERIENCE

Comm2, New York, NY

March 2023 – Present

Co-Founder / Full-Stack Engineer

- Launched a website for students to prepare for coding interviews at FAANG companies
- Built a code-submission API using Docker that horizontally scales during spikes (Docker, AWS)
- Implemented much of our UI, including a web IDE, developer tools to write content (& upload images, create Python test cases), complex navigation components/router backend, and a Markdown parser
- Iterated with users weekly to develop curriculum and test new features
- Partnered with universities, onboarded TAs over zoom, and provided weekly readouts (PostgreSQL)

Johns Hopkins APL, Laurel, MD

August 2022 – March 2023

Software Engineer

- Led a project for a first-time sponsor to estimate the resources needed to run a quantum computer
 - Collaborated with 5 postdocs to spec out the key quantum hardware assumptions & project goals
 - Implemented a production codebase in Python/PyTorch
 - Guided monthly sponsor meetings, increasing sponsor funding by 150%
- Implemented a tool to assign confidence scores to computer systems, using statistics & logic (Python)
 - My work on statistics and Beta distributions was published in a journal paper
 - Critical government systems use the tool to assure system confidence

Sense Technologies, New York, NY

June 2019 – August 2019

Software Engineer Intern

- Worked closely with the CEO on a movie-recommending chatbot AI
- Rewrote the tokenization algorithm & retrained model, improving response quality & retention by 15%
- Reduced cost-per-message by 30% by chaining message IDs in Firebase storage to reduce recall time
- Deployed to Google Assistant, and Google's recommendation algorithm sent us 100,000+ new visitors

RESEARCH

Columbia University (Research Consultant), Remote

May 2021 – June 2022

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

Cornell University (Student Researcher), Ithaca, NY

August 2017 – May 2021

- With **Prof. Sampson**, I designed parallel algorithms in CUDA, speeding up benchmarks by 150%
- With **Prof. McMahon**, I invented an algorithm to compute machine learning "quantum embeddings"

PROJECTS

io game

reelers.io is a multiplayer browser game

markdown parser

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

3D renderer

[3DTest](#) is a game created from scratch without any external graphics libraries