Dylan Hu

Brown University, Class of 2024
Sc.B. in Applied Mathematics and Computer Science, [Concentration GPA: 3.9 / 4.0]

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EXPERIENCE

Dear Blueno — *Co-founder, Project Manager, Lead Developer* **Fall 2021 - Present**
- Led a small team in designing and creating dearblueno.net, now a popular anonymous Brown University forum
- Built with an Express and MongoDB backend, leverages Next.js and React Query for responsive client interaction
- Packaged and deployed web app on Vercel, as well as iOS and Android apps
- Currently has over 5000 threads, 1000 users, and 1,500 visits per day

Here! — *Co-founder, Lead Developer* **Fall 2022 - Present**
- Leading a team building a tool for TAs and students to manage course section registration and attendance
- Overseeing design, curating technology stack, building API, and coordinating integration between components
- Leveraging Next.js, MUI, Firebase, Jest, and React Testing Library

CSCI 2470: Deep Learning — *Head Teaching Assistant* **Winter 2022 - Summer 2023**
- Will be leading a large TA staff in developing material for Deep Learning, a popular course with hundreds of students

CSCI 1300: User Interfaces and User Experience — *Teaching Assistant* **Fall 2022 - Present**
- Lead studio sections on concepts like low-fi and high-fi prototyping, wireframes, usability, and iterative design
- Communicate important user experience principles like responsiveness, learnability, and efficiency
- Wrote course guides on Git, React, and deployment, as well as a studio on mobile app development using Flutter

CSCI 0320: Introduction to Software Engineering — *Teaching Assistant* **Winter 2021 - Summer 2022**
- Designed the course's second project, an organization app with Kanban and table views
- Acted as a project manager of many student groups, guiding them through agile development

Brown University Sunlab — *Consultant* **Spring 2022 - Present**
- Provide technical support to students using Linux and Windows machines both in-person and remotely through ssh
- Gained broad exposure to and understanding of Windows and Linux, networked file systems, and hardware

Brown Esports — *VALORANT Team Captain, Executive Board Member* **Spring 2021 - Present**
- Organize tryouts, practice, scrimmages, and tournament participation
- Resolve conflict between players and advocate for them as a member of the executive board

PROJECTS

Heath **Fall 2022 - Present**
- Independently building a peer-to-peer ledger app for iOS for managing transaction history and balance with friends
- Built with SwiftUI and UIKit, uses shared CloudKit zones for easy sharing and synced transactions through iCloud

Canvas Reminders **Fall 2022 - Present**
- Command-line tool using Canvas and Apple's EventKit APIs to integrate Canvas assignments with Apple Reminders

Neural Collision Detection for Deformable Objects **Spring 2022**
- Worked in a group to implement a paper on fitting and colliding neural SDF representations of 3D objects
- Implemented 3D object collision in C++ for both traditional meshes and neural SDF representations
- Created multiple scenes for comparison between neural SDF and traditional methods

Cloth Simulation **Fall 2021**
- Implemented a physically-based mass-and-spring cloth model evaluated using iterative constraint satisfaction
- Worked in a group to render the cloth using a ray tracer and partial path tracer, enabling glass and metal shaders

Path Tracer **Fall 2021**
- Implemented a C++ path-tracing renderer with global illumination, direct lighting, reflection, refraction, and textures

RELEVANT COURSEWORK

Computer Vision for Graphics and Interaction · Interactive Computer Graphics · Deep Learning · Introduction to Computer Graphics · Introduction to Computer Systems · Statistical Inference I · Discrete Structures and Probability · Introduction to Software Engineering · Honors Linear Algebra · Accelerated Introduction to Computer Science

SKILLS

Languages — Swift, Objective-C, Java, Python, C, C++, Go, JavaScript, TypeScript, HTML, CSS, SQL, Sass/SCSS, Rust
Frameworks and Technologies — SwiftUI, UIKit, CloudKit, EventKit, React, Next.js, React Query, JUnit, Cypress, Playwright, TensorFlow, PyTorch, NumPy, Git, MongoDB, MUI, MySQL, SQLite, Express, Node.js, TailwindCSS, Three.js
Platforms and Operating Systems — macOS, iOS, Windows, Linux, GitHub, Vercel, Cloudflare, Jupyter, Firebase
Creative Tools — Sketch, Figma, Maya, Blender, Balsamiq, Word, PowerPoint, Excel, Pages, Adobe Creative Cloud