SOPHIE SHAO

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EDUCATION

Brown University, *B.S. Applied Mathematics-Computer Science* — **Providence, RI**
- **GPA:** 3.85/4.0 — *Expected Graduation May 2027*
- **Relevant Coursework:** Data Structures and Algorithms, Computer Vision, Deep Learning, Applied Cryptography

PROJECTS

Full Stack OLEEP Website — *March 2025*
- Led UX research for a team of 3 designers, conducting stakeholder interviews to identify pain points in existing web presence
- Designed wireframes and prototypes in Figma, prioritizing information architecture and accessibility based on client feedback
- Implemented a responsive UI with React/Next.js, featuring real-time data visualization to improve user engagement

Depth-Based Portrait Filter — *Dec 2024*
- Developed a deep learning pipeline to create depth maps and apply Gaussian Filter to images using stereo vision and CNNs
- Leveraged Marigold for depth estimation and YOLO for object detection to segment foreground/background with precision
- Conducted comparative analysis, achieving a **90%** improvement in depth estimation accuracy using CNNs over stereo vision

Investor Database — *Aug 2024*
- Built Python scripts to scrape over **10,000** data points from public sources, identifying key investors in Crypto and Blockchain
- Created a structured Excel database of **2,000+** high-potential leads, streamlining outreach and improving efficiency by **40%**

WORK EXPERIENCE

Brown Visual Computing — **Providence, RI**
Research Assistant — *Jan 2025 - Present*
- Spearheading the development of a Python-based deep learning pipeline for text-to-SVG generation inspired by tangram art
- Conducting research on generative models and optimizing algorithms to improve output quality and computational efficiency

Brown Office of University Communications — **Providence, RI**
Web & Digital Assistant — *Sept 2024 - Present*
- Collaborating on the creation of office and departmental websites, optimizing navigation structures and accessibility
- Owning content migration between legacy and modern CMS platforms while ensuring a seamless user experience
- Conducted heuristic evaluations of 10+ university websites, identifying common UX pain points and proposing redesigns

DChained Capital — **Remote**
Research Intern — *June 2024 - Aug 2024*
- Developed automated web scraping tools using Playwright and BeautifulSoup to collect and analyze investor data
- Simplified outreach by creating an Excel database identifying 2,000+ leads in the Crypto and Blockchain space
- Presented findings to senior leadership, influencing strategic decisions in investor relations

EXTRACURRICULAR ACTIVITIES

Full Stack @ Brown — **Providence, RI**
Designer & Developer — *Jan 2025 - Present*
- Developing Web Applications for Outside Leadership and Environmental Educational Program (OLEEP) website
- Implementing dynamic features such as real-time data visualization and responsive design using Next.js and Firebase
- Prioritize responsive design to ensure seamless cross-device (mobile/desktop) usability

Brown University Women's Swimming and Diving — **Providence, RI**
NCAA Division I Student-Athlete — *Aug 2023 - Present*
- Balancing a rigorous 20-hour weekly training schedule with academic commitments, demonstrating exceptional discipline

Brown University Women in Computer Science — **Providence, RI**
Member — *Aug 2023 - Present*
- Facilitating and participating in panels, socials, and networking events focused on encouraging women into careers in tech

TECHNICAL SKILLS

- **Programming Languages:** Python, C/C++, Java, Javascript, Typescript
- **Frameworks & Libraries:** React, Next.js, Node.js, PyTorch, TensorFlow, NumPy, OpenCV (CV2), Pandas, Scikit-learn
- **Tools & Platforms:** Figma, Git, Firebase, LaTeX, Adobe Creative Suite (Photoshop, Illustrator), WordPress, Excel (Advanced)