

# SOPHIE SHAO

(412) 580 5004 | sophie\_shao@brown.edu | Website | LinkedIn | Github

## 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 User Story** - Figma, React, Typescript, Next.js, Node.js

*Feb 2025*

- Implemented a complex participant tracking feature for IntusCare's CareHub, an advanced workflow tool for PACE programs
- Created a responsive list and focus view, integrating a navigation bar, search bar, and sorting filters for names and ICD codes

**Depth-Based Portrait Filter** - Python, CV2, Numpy, PyTorch

*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** - Python, Playwright, BeautifulSoup, Excel

*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 using the content management system Drupal
- Owning content migration between web content management systems while ensuring a seamless user experience

**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

**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

**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

**Brown Motion Pictures**

**Providence, RI**

*Tech Coordinator*

*Aug 2024 - Present*

- Organizing the technological equipment and elements of the production cycle, including managing inventory
- Training crew members through hands-on workshops on using film equipment during shoots and post-production

**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)