Julia Fang

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EDUCATION

JOHNS HOPKINS UNIVERSITY   **Baltimore, MD**
B.S. Computer Science, B.A. Writing Seminars   *Expected Graduation: May 2026*
- **Cumulative GPA: 3.73/4.0**
- Relevant courses: Intermediate Programming, Data Structures, Algorithms, Full-stack Javascript, Linear Algebra.
- Awards and Honors: Dean's List (every semester)

SKILLS

- Coding Languages: Java, C/C++, JavaScript, HTML, CSS, Python, Kotlin, PHP.
- Frameworks and Libraries: Node.js, React.js, Tailwind, Phaser.js, SQLite, Drizzle ORM, Lucia Auth, Hono.js.
- Tools: Gradle, Vite, Docker, Postman, Git, Apache.

PROJECTS & RESEARCH

ODGen PHP Abstract Interpretation Lab | *Cybersecurity Research Intern: Kotlin, PHP*   *May 2024 – December 2024*
- Wrote 1800+ lines of Kotlin worker functions and tests to detect security vulnerabilities in PHP programs.
- Implemented abstract interpretation and models that represent call relationships between functions, control flows, and simulate syntax: Abstract Syntax Tree, Code Property Graph, and two novel graphs (Object and Invocation Dependency Graph).
- Verified source to sink call paths detected by graphs in real world example cases of SQL injection and Cross-Site Scripting (XXS) in web applications.

Flashcards Web Application | *Full-stack JavaScript*   *December 2024*
- Created a single page React.js application where users can create a collection of decks containing flashcards. Users can create, update, edit, and delete each deck or flashcard.
- Built a backend RESTful API using Hono.js, SQLite, and Drizzle ORM to create a persistent database for decks, cards, and users.
- Integrated AI generated definitions for flashcard creation using Google Gemini API.
- Implemented user authentication by establishing sessions and cookies using Lucia Auth.
- Implemented user-friendly front-end with a dropdown menus and dynamic pagination elements. Managed states and client-side routing through Nanostores. Styled with HTML and CSS Tailwind.

Meme Generator Web Application | *JavaScript*   *October 2024*
- Developed JavaScript application that takes user text input and generates memes by fetching an image from Imgflip API (image generator) and overlaying the text onto the image.
- Used local storage to cache API response for efficient retrieval. Used functional programming structure.

Chess game | *C++*   *April 2024*
- Built a chess program where two players can play against each other through text commands in terminal.
- Used Object Oriented Programming and principles of inheritance, polymorphism, and dynamic memory allocation.

WORK EXPERIENCE

Henderson-Hopkins   **Baltimore, MD**
Math Tutor   *October 2022 – April 2024*
- Tutored groups of 2 Baltimore public middle school students grades 4-8 for 45-minute sessions (8 hours per week) through creating and teaching basic math lessons, conducting math fluency activities, supervising Khan Academy practice, and connecting with students.

Blueprint College Counseling   **Shanghai, China**
Marketing Intern   *June 2023 – August 2023*
- Filmed and edited 11 marketing including short-form promotional clips and long-form interviews using Final Cut Pro, uploaded to XiaoHongShu social media account. Published a magazine campaign featuring 12 high school student interview articles.

Harmonia Holdings   **Shanghai, China**
Licensing Intern   *June 2021 – August 2021*
- Edited theatrical licensing contracts, wrote newsletters for local Shanghai high school drama teachers, and created pamphlets for licensing workshops. Sponsored an Educational Theatre Association theatre festival, toured a "Paddington" show in Suzhou, China.

Activities: Women in CS, Zeniada editorial board (literary magazine), The Notes of Ranvier Music Director (community service a cappella group).