

# Ishit Bansal

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## EDUCATION

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### The University of Alabama

August 2024 – May 2028

*Bachelor of Science in Computer Science (Honors), Minor in Robotics — GPA: 4.2/4.0*

- Relevant Coursework: Data Structures, Algorithms, Object-Oriented Programming, Software Engineering, SDLC

## EXPERIENCE

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### FOLIO Lead Student Software Developer

August 2025 – Present

*University Libraries, The University of Alabama*

*Tuscaloosa, AL*

- Engineer backend services for FOLIO Library Management System with Java, Spring Boot, and Spring Data JPA
- Orchestrate database migrations with Liquibase, minimizing downtime and eliminating data loss risk
- Manage entity-to-DTO mappings with MapStruct to preserve type-safe data flow
- Deliver responsive frontend features in React and TypeScript within the Stripes framework
- Integrate APIs through React Query and ky to enable caching, type safety, and robust loading/error states
- Author unit and integration tests with JUnit, Jest, and React Testing Library, achieving 80%+ coverage

### Computer Science & Robotics Instructor

Summer 2025

*BLAST Academy, The University of Alabama*

*Tuscaloosa, AL*

- Taught computer science fundamentals to 200+ K–5 students with Scratch, VEX 123, Bee-Bots, and Ozobots
- Created interactive lessons promoting problem-solving and computational thinking
- Cultivated an engaging environment to boost student participation and retention

## PROJECTS

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### BIBO | *React, TypeScript, FastAPI, PostgreSQL, WebSockets, Gemini AI, scikit-learn, Docker*

- Built a full-stack real-time dashboard streaming 10K+ time-series records via a WebSocket engine
- Created Snap anomaly simulation that removes 50% of active data to test dashboard reliability and live updates
- Constructed AI-powered pipeline that PII-redacts and processes 200+ reports to extract key structured entities
- Developed interactive operational and supply-chain maps with Leaflet for live logistics monitoring
- Implemented ML forecasting with scikit-learn regression and time-series analytics for 7-day risk predictions
- Built custom pixel-art UI with hand-drawn sprites and biometric face-recognition authentication

### Bondly | *Next.js, TypeScript, Supabase, Tailwind CSS, Google Gemini, Vercel*

- Architected a privacy-first communication platform enabling anonymous dialogue
- Integrated AI-powered personalized guidance by analyzing partner inputs through Google Gemini
- Deployed client-side end-to-end encryption securing messages before browser transmission
- Engineered anonymous, no-sign-up flows with Supabase and Row Level Security
- Automated 24-hour data deletion via scheduled cleanup jobs to enforce zero long-term retention

### Resistify | *JavaScript, HTML/CSS, Chrome Extensions (Manifest V3), MutationObserver, Chrome Storage API*

- Created a Chrome extension highlighting opportunity cost of purchases to encourage mindful spending
- Detected checkouts across 10 e-commerce sites and displayed future value projections
- Converted purchase prices into work-time equivalents based on user earnings
- Tracked avoided purchases and projected savings locally through Chrome Storage API
- Crafted a responsive, non-intrusive UI with modal notifications and smooth animations

### SubMap | *JavaScript, Tailwind CSS, Web Audio API, Iconify API, LocalStorage*

- Built a retro-themed web app visualizing subscription costs through a proportional treemap
- Introduced a feature converting subscription costs into work-time equivalents
- Enabled fast search, inline editing, and real-time updates for a smooth user experience
- Designed dark/light retro themes with subtle 8-bit sound effects via Web Audio API

## TECHNICAL SKILLS

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**Languages/Frameworks:** Java, Python, C/C++, TypeScript, JavaScript (ES6+), SQL, FastAPI, WebSockets

**Frontend:** React, Next.js, HTML5, CSS3, Tailwind CSS, React Query

**Backend/Databases:** Spring, Spring Boot, REST APIs, JPA (Hibernate), Supabase, PostgreSQL

**Data & ML:** pandas, NumPy, Matplotlib, TensorFlow.js

**Developer Tools:** Git, Docker, Jenkins (CI/CD pipelines), Liquibase, OpenAPI, Testing (Jest, JUnit, RTL)