

Shubham Anil Singh

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EDUCATION

University of Utah, Salt Lake City, Utah

December 2025

Bachelor of Science in Computer Science

- Dean's list (spring 2021 and fall 2021)
- Courses taken - Algorithms, Software practices, Web Software Architecture, Human Computer Interaction, Computer Networks, Computer Security, Database Systems, Operating Systems, Artificial Intelligence.

SKILLS

- Programming: Java, C#, C++, Python, low-level programming
- Core CS: Data Structures & Algorithms, Object-Oriented Design, MVC Architecture
- Web Development: HTML5, CSS3, JavaScript/TypeScript, React, Vue.js, Django, Spring Boot; strong in DOM manipulation & REST API integration (CRUD)
- Cloud & Microservices: AWS (EC2), Microsoft Azure, scalable microservices with Spring Boot, RESTful APIs, service discovery, API gateways, inter-service communication.
- Databases: SQL (MySQL, SQL Server) & NoSQL (MongoDB)
- Software Engineering: Agile (Scrum, Kanban), SDLC, Test-Driven Development (TDD), Git/GitHub version control

EXPERIENCE

Kahlert School of Computing

Salt Lake City, UT

Peer Mentor

May 2023 - Present

- Assisted over 100 students with course selection, scheduling, and registration.
- Guided students on major selection and career paths within the computing field.
- Collaborated with the mentorship program coordinator to revamp the program structure, resulting in significant increase in mentee engagement.

Kahlert School of Computing

Salt Lake City, UT

Teaching Assistant

January 2022 - May 2023

- Assisted professors with classroom management and document coordination to maintain a positive learning environment.
- Collaborated with teachers to plan and implement lessons following the school's curriculum and objectives that contributed to a 15% retention rate.
- Provided group tutoring to a group of 20 students to reinforce learning concepts like object-oriented programming and help them follow good software practices.

PROJECTS

FreedomLedger - Full-Stack Financial Management Platform

GitHub Repo

- Engineered full-stack fintech application using modern Next.js 15/React 19 frontend with FastAPI backend, processing real-time financial data from Plaid API across 11,000+ institutions with async operations and caching
- Architected complex database system with PostgreSQL featuring 15+ interconnected tables, implementing proper indexing, foreign key relationships, encrypted sensitive data storage, and optimized queries for sub-100ms response times
- Implemented advanced data visualization suite with D3.js custom charts and Recharts components, creating interactive donut, radar, bullet, and dumbbell charts with real-time data updates and responsive mobile design
- Built enterprise-grade security layer using Firebase Authentication, JWT token management, encrypted Plaid access tokens, role-based permissions, and comprehensive input validation following OWASP guidelines
- Developed RESTful API architecture with 45+ endpoints across 12 router modules, implementing proper HTTP status codes, request validation with Pydantic models, and comprehensive API documentation with FastAPI
- Implemented advanced features including transaction categorization algorithms, budget calculation engines, goal tracking systems, and real-time data synchronization with proper caching and performance optimization

Online Chat Application

GitHub Repo

- Developed a real-time chat application with React and Tailwind CSS for the frontend and implemented the backend with FastAPI.
- Managed user authentication, real-time messaging, and database interactions efficiently.
- Ensured secure and seamless integration between frontend and backend through environment variables and CORS settings.

Agario-multiplayer Client

- Implemented real-time network communication using TCP sockets for consistent game state synchronization across clients.
- Created a dynamic user interface that updates based on real-time game state data.