JIDA LI

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Education

Boston University(BU)   **Expected 05/2025**
Bachelor of Arts in Computer Science, GPA: 3.93/4.00   *Boston, MA*

Relevant Coursework

- Computer System
- Embedded System
- Distributed System
- Computer Network
- Cryptography & Cryptocurrency
- Database Management
- Machine Learning
- Algorithms Analysis
- Interpreter & Compiler
- Linear Algebra
- Probability & Statistics
- Discrete Math

Technical Skills

Languages: Go, Solidity, Python, JavaScript/TypeScript, C, Java, Circuit, Dart, Shell, SQL/ NoSQL, Latex, HTML/CSS
Frameworks & Libraries: Gin, Django, FastAPI, Flutter, Express, Foundry, Hardhat, React, Streamlit, The Graph
Databases: Mysql, Redis, PostgreSQL, RabbitMQ, MongoDB, IPFS
DevOps & CI/CD: Git, Docker, Linux, Microsoft Azure, Github Actions, Postman, Heroku

Experience

Queryshield Research, BU   **09/2024 - Present**
Advised by Dr. Ioannis (John) Liagouris   *Boston, MA*

- Designed and implemented a user-friendly interface for Queryshield using **Streamlit** and **Python**, enabling secure data aggregation requests for data analysis via Multiparty Computation (MPC).
- Collaborated with researchers to streamline and automate analysis workflow, enabling real-time monitoring and secure results retrieval across cloud providers or private clusters.
- Engineered a secure data-sharing workflow, allowing data owners to securely upload encrypted shares through MPC encryption.

IT Help Center, BU   **01/2023 - Present**
IT Support Specialist   *Boston, MA*

- Resolve hardware and software issues for over 10,000 BU members, providing both in-person and remote support.
- Manage and maintain classroom technology devices to ensure their optimal functionality and enhance user experience.

Neo Smart Economy   **05/2024 - 08/2024**
Backend and Smart Contract Development Intern   *Shanghai, China*

- Designed and developed blockchain faucet server on NeoX testnet, allowing over **10,000** users to simulate transactions and interact with decentralized apps (Dapps), and providing a testing platform for developers.
- Blueprinted and implemented system design of **MySQL** schema for claimer and transaction data, **Redis** schema for caching and rate-limiting claimers, and robust dripping transaction handling system.
- Optimized **Golang Gin** server performance by implementing ethClient pools with multithreading, improving QPS by **15x**.
- Enhanced system efficiency by integrating **Redis** for querying and caching, reducing query times by **58%**.
- Integrated **Google reCAPTCHA v3** to prevent bot traffic, blocking up to **98%** of malicious access.
- Developed a **Solidity** decentralized exchange with Ve(3,3) restaking rewards and integrated **Chainlink** oracles for price accuracy.
- Collaborated with international teams to audit **Solidity** codes using **Hardhat**, increasing test coverage rate by **34%**.

Faculty of Computing & Data Sciences, BU   **12/2023 - 05/2024**
Grader for DS 453/653 (Crypto for Data Science)   *Boston, MA*

- Collaboratively developed course assignments and tutored over 30 students, significantly improving their critical thinking.
- Designed and implemented a **Python** grading automation system, to enhance efficiency by **58%** and accuracy by **42%**, enhancing educational quality and student learning experiences.

Selected Projects

BU Arts Initiavtive Mobile App | *Dart, Flutter, React, Firebase, Python, BeautifulSoup4*   **09/2024 - 12/2024**

- Integrated BU SSO authentication to enhance login security, resulting in a 40% faster login process and improved user satisfaction.
- Optimized event data web scraper using BeautifulSoup4 and the school's **RESTful API**, increasing data accuracy by **35%** and processing speed by **43%**.
- Developed **React** admin dashboard, enabling easy event information management and automated analysis data generation.
- Redesigned the rewards system and leaderboard with personalized tracking and real-time notifications, increasing user engagement by **42%** and retention by **18%**.

Meme Coin Competition | *Solidity, The Graph, Foundry, IPFS, Next.js*   **08/2024 - 09/2024**

- Engineered and optimized smart contracts for a meme coin launch competition, enabling winning tokens to acquire liquidity from failed tokens and launch on Carrot Swap on NeoX.
- Implemented an on-chain random oracle leveraging the unpredictability of future block hashes, ensuring game fairness.
- Designed and enforced a predefined bonding curve and access control for each token, preventing rug pulls and securing user assets.

Push | *Solidity, Circom, Express.js, Hardhat, React.js*   **03/2024 - 05/2024**
- Developed a productivity DApp on EVM blockchain to incentivize health-related tasks, promoting a healthy lifestyle.
- Implemented a blockchain-based task management system with **Solidity** smart contracts, allowing users to customize and post health tasks with token rewards in the community.
- Integrated **circom-zk-proofs** to verify task completion and secure user's HealthKit data, protecting data privacy and integrity.

Erudite | *Python, FastAPI, Elasticsearch, MongoDB, Redis, Heroku, Vue.ts*   **09/2023 - 05/2024**
- Collaborated on the development of an advanced course planning platform for BU, enhancing student course selection through interactive roadmaps, course reviews, ratings, and iCalendar integration.
- Utilized **asyncio** for course data scraping and cleaning processes, achieving an **8x** improvement in querying time.
- Designed and optimized **MongoDB** database schema with strategic indexing, reducing data retrieval time by **70%**.
- Integrated **Google OAuth2** and **SMTP** for seamless login authentication, significantly elevating system security.

Amazing Ball System | *C, Linux, Shell*   **09/2023 - 05/2024**
- Developed a discrete PID control system to balance a ball on a 2D platform using touchscreen ADC input and PWM servo output, with real-time filtering to reduce noise.
- Tuned independent PID constants for X and Y dimensions, ensuring stability under external disturbances through systematic testing and adjusting gains.
- Displayed real-time ball positions and setpoints on an LCD-serial interface for continuous system monitoring and feedback.

Concurrent Image Processor | *C, Docker, Linux, Python, Shell*   **09/2023 - 12/2023**
- Developed a multithreaded M/M/N RPC server to process image operation requests, achieving a **3x** reduction in processing time.
- Integrated FIFO and SJN queuing algorithms to optimize resource allocation and improve efficiency under varying request loads.

Music to Ticket | *Express.js, React.ts, MongoDB, Tailwind, Postman*   **09/2023 - 12/2023**
- Developed a web application that connects users with live concerts tailored to their Spotify playlists.
- Integrated Spotify and Ticketmaster **RESTful APIs** to deliver real-time concert updates, improving user satisfaction.
- Implemented **Spotify OAuth2** for robust authentication, enhancing data privacy and user trust.
- Integrated **Expedia RESTful API** to offer customized travel planning based on concert schedules and user preferences.

Energy Consumption Dashboard on Blockchain | *Solidity, Python, Circuit*   **04/2023 - 05/2023**
- Developed a sustainability dashboard on Ethereum blockchain using **Solidity** smart contracts for secure energy consumption data aggregation.
- Designed **zk-SNARK circuits** and implemented **MPC** with **Shamir Secret Sharing**, ensuring confidentiality and correctness in data processing.

OCaml Interpreter | *Ocaml*   **11/2022 - 12/2022**
- Developed a comprehensive **OCaml** interpreter supporting basic computations, stack operations, and precise error handling.
- Integrated advanced constructs such as unions, tuples, and mutually recursive functions to optimize the interpreter's functionality.
- Strengthened code efficiency by refining data processing and improving error logging for complex operations.