SATYA ASHOK DOWLURI

Lawrence, KS | (785)-550-1666 | dowlurisatyaashok@gmail.com
satyaashok.netlify.app | linkedin.com/in/satyaashokdowluri

SKILLS

Languages & Frameworks:	Java, C#, Python, Spring Boot, .NET Framework, Spring Cloud, React, JavaScript, HTML, CSS, Spring Data JPA, JUnit, Mockito
Databases & Tools:	PostgreSQL, MongoDB, MySQL, DynamoDB, Cassandra, Apache Kafka, Protocol Buffers, Ghidra
DevOps & Cloud Technologies:	GitLab CI/CD, Docker, Kubernetes, Apache Zookeeper, Linux shell Scripting, Google Cloud, AWS (Lambda, IAM, EC2, S3), HAProxy
Relevant Coursework:	Operating Systems, High-Performance Computing, Software Reverse Engineering, Distributed Systems and Cloud Computing, Software Security Auditing

WORK EXPERIENCE

Software Development Intern, Paycom   *May 2025 - August 2025*

- Created an algorithm to extract table data from PDFs, accelerating processing time by over **60x (from 60 minutes to 1 minute)** and robustly handling diverse edge cases.
- Developed a full-stack web application using .NET Web API and React, providing backend developers with an interface to interact with the algorithm, enhancing user experience and operational efficiency.
- Received **MVP** recognition at Paycom's **Hackathon** for creating a project management website that improved internal business operations.
- **Technologies**: **C#**, .NET Web API, React, JavaScript, MySQL, JWT

Software Engineer, Hatio Innovations   *June 2021 - June 2023*

- Developed **Hatio Payouts** by integrating **Citibank**, **ICICI Bank**, and **Paytm Payments Bank** APIs via **gRPC**, delivering secure, high-performance payment solutions.
- Introduced features like Manual Deposit and Withdrawal processes to **Coinome**, a cryptocurrency broker web application, boosting speed and elevating user satisfaction.
- Achieved approximately **10-30x** performance improvement by replacing complex multi-table analytical queries with materialized views.
- Streamlined design efficiency by reducing feature space by **50KB**, crafting custom, functional CSS icons.
- Designed and developed the **Coinome Operations Admin Portal**, addressing critical business needs and enhancing daily workflow.
- Served as **Scrum Master** for **2 months**, ensuring timely project delivery, fostering seamless team collaboration, and guiding a shift to **test-driven development** practices.
- **Technologies**: **Java**, Spring Boot, PostgreSQL, Protocol Buffers, gRPC, GitLab CI/CD, Docker, Kubernetes

EDUCATION

Master's in Computer Science, University of Kansas, GPA: 4.0/4.0	*August 2023 - December 2025*
Bachelor's in Electronics and Communication, National Institute of Technology Calicut	*August 2017 - May 2021*

RESEARCH & PROJECTS

Thesis Research, University of Kansas

- Investigated performance trade-offs in experimental **JIT compilation** for **Python 3.14** and **PyPy** runtimes.
- Extended Python's JIT by adding a new command-line interface to tune threshold parameters at runtime, enabling fine-grained control over trace compilation and optimizations.
- Proposed and implemented a benchmark-specific tuning methodology for JIT thresholds, optimizing execution time, memory usage, and cache performance.
- Achieved measurable runtime and resource efficiency improvements, contributing to the understanding of Python's JIT internals.

Fault Tolerant Distributed Search Engine

- Designed and executed a **horizontally scalable, fault-tolerant asynchronous** distributed search system using a parallel task-based **TF-IDF algorithm**, ensuring exceptional reliability.
- Implemented dynamic leader election and service discovery with **Zookeeper**, significantly enhancing system resilience and performance.
- Built loosely coupled backend components with **Java Object serialization** for inter-node communication and **Protocol Buffers** for cross-language compatibility with the frontend.
- Leveraged Java, Zookeeper, and JavaScript to deliver a cutting-edge, efficient document search solution.