

SATYA A DOWLURI

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SUMMARY

Software Engineer with 3+ years of building high-throughput, scalable applications and microservices. Led the development of a PDF table extraction algorithm that cut processing time 60× and integrated it into Paycom's data pipeline. Skilled in Java, Python, AWS, React, and adept at designing high-performance algorithms and microservice architectures. Proven track record of enhancing data processing pipelines and system throughput. Seeking to apply expertise in building robust, data-intensive applications to accelerate product performance and business impact.

SKILLS

Languages & Frameworks:	Java, Python, C, Spring Boot, Spring Cloud, React, JavaScript, HTML, CSS
Databases & Tools:	PostgreSQL, MongoDB, MySQL, Apache Kafka, Protocol Buffers, Ghidra, gdb
DevOps & Cloud:	GitLab CI/CD, Apache Zookeeper, AWS, Linux shell Scripting, Docker, HAProxy
Relevant Coursework:	Operating Systems, High-Performance Computing, Software Reverse Engineering, Distributed Systems and Cloud Computing, Networking, Software Security Auditing

WORK EXPERIENCE

Software Development Intern , Paycom, TX, USA	<i>May 2025 - Aug 2025</i>
<ul style="list-style-type: none">Engineered a high-performance PDF table extraction algorithm using optimized data structures, achieving 60x speedup (from 60 minutes to 1 minute) while robustly handling edge cases, including multi-page tables, merged cells, and scanned PDFs with OCR-resistant layouts.Developed a full-stack web application using .NET Web API, integrating the algorithm into Paycom's data processing pipeline and reducing manual data entry workload by an estimated 80 hours/month across the company.Received MVP recognition at Paycom's Hackathon for creating a project management website that allowed 120 yearly intern project selections and allocations.Technologies: C#, .NET Web API, React, JavaScript, MySQL, JWT	

Graduate Research Assistant , University of Kansas, KS, USA	<i>Jan 2025 - Dec 2025</i>
<ul style="list-style-type: none">Analyzed performance trade-offs in CPython 3.14 experimental JIT and PyPy, characterizing optimization efficacy across diverse workloads (numeric computing, data processing, algorithmic puzzles, template rendering, and networking).Extended Python 3.14 experimental JIT with a dynamic command-line interface to tune 6 critical threshold parameters at runtime, enabling fine-grained control over adaptive specialization and side-exit strategies.Designed and implemented a benchmark-specific JIT threshold tuning methodology, which delivered 40-60% throughput gains on targeted benchmarks while lowering memory usage and improving cache locality.Thesis: Bytecode Specialization and Adaptive Threshold Tuning in CPython 3.14's Tier 2 experimental JIT compilation.	

Graduate Teaching Assistant , University of Kansas, KS, USA	<i>Jan 2024 - Dec 2024</i>
<ul style="list-style-type: none">Instructed Operating Systems (Professors Dr. Prasad Kulkarni & Dr. Heechul Yun) labs for over 180 students, designing hands-on exercises covering kernel scheduling, memory management, and other operating systems concepts.Held weekly office hours and lab sessions, providing mentorship on systems programming and debugging techniques; received positive student feedback on lab clarity and technical rigor.	

Software Engineer , Hatio Innovations, KL, India	<i>Jun 2021 - Jun 2023</i>
<ul style="list-style-type: none">Developed Hatio Payouts, integrating Citibank, ICICI Bank, and Paytm Payments Bank APIs via gRPC, delivering secure, high-performance B2C payouts processing 10K+ daily transactions and 99.9% uptime.Introduced features like Manual Deposit and Withdrawal processes to Coinome, a cryptocurrency broker web application, boosting speed and elevate user satisfaction.Achieved 20-30x performance improvement by replacing 10+ complex multi-table analytical queries with materialized views.Designed Operations Admin Portal with fine-grained RBAC serving 50+ compliance and customer service staff, managing 4+ workflows addressing critical business needs.Served as Scrum Master, rotating with peers across 2-month sprint cycles, applying agile methodologies and git version control to ensure timely project delivery, fostering seamless team collaboration, and guiding a shift to test-driven development practices.Technologies: Java, Kotlin, Spring Boot, PostgreSQL, Protocol Buffers, gRPC, Git, GitLab CI/CD, SDLC	

EDUCATION

Master's in Computer Science , University of Kansas, GPA: 4.0/4.0	<i>Aug 2023 - Dec 2025</i>
Bachelor's in Electronics and Communication , NIT Calicut	<i>Aug 2017 - May 2021</i>

PERSONAL PROJECTS

Fault Tolerant Distributed Search Engine

- Designed and implemented a **horizontally scalable, fault-tolerant asynchronous** distributed search system using a parallel task-based **TF-IDF algorithm**, handling dynamic node failures and network partitions with zero query loss.
- Implemented dynamic leader election and service discovery with **Apache Zookeeper**, enabling automatic fail-over.
- Built loosely coupled backend components with **Java Object serialization** for inter-node communication and **Protocol Buffers** for cross-language compatibility.

Project Management Software

- Developed **full-stack web application** with real-time collaboration features (WebSocket chat, live notifications, issue tracking).
- Implemented JWT-based authentication and subscription service with **Razorpay** payment integration.
- Implemented automated **email notifications** for project activities (e.g., new issues, comments), ensuring seamless communication.
- **Technologies:** Java, Spring Boot, REST API, JSON Web Token, React, MySQL, Spring Starter Mail, and Tailwind.

CERTIFICATIONS

- Distributed Systems and Cloud Computing in Java (Udemy)
- Multi-threading, Parallel & Asynchronous Coding in Java (Udemy)
- Microservices with Spring Boot and Spring Cloud (Udemy)