Saketh Bireddy

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Education

Purdue University **May 2027**
B.S. in Computer Science, Dean's List and Semester Honors ***GPA: 3.74***

- **Relevant Coursework:** Data Structures and Algorithms, Computer Architecture, Object-Oriented Programming in Java, Programming in C, Machine Intelligence, Systems Programming, Discrete Math, Linear Algebra

Experience

Trimble Inc. May 2025 – August 2025
Software Engineer Intern *Princeton, NJ*

- Implemented PostgreSQL database migrations on AWS EC2 via Python, improving CRUD for 50+ GIS analysts.
- Created a Jenkins CI/CD pipeline using Docker to clean 120k+ POI records, saving ~20 dev hours monthly.
- Wrote Python ETL script to extract shapefiles, redesign SQL tables, and auto-generate regional boundary views.
- Engineered a SQL monitoring system with AWS CloudWatch, Slack API alerts, and daily Matplotlib graphs, catching 90% of resource spikes 2x faster and lowering cloud expenses by $2,000/year.

IpserLab LLC August 2024 – December 2024
Software Engineer Intern *Remote*

- Decreased e-commerce platform latency 35% by adding 5 RESTful Java APIs, endpoint validation via Postman, and improving HTTP load distribution with Apache Tomcat.
- Doubled concurrent session capacity to 200+ users by profiling Java modules and indexing critical Postgres queries.
- Constructed an XML configuration system with React and Stripe payments, resulting in a 10% faster checkout flow.

Mingley June 2024 – August 2024
Software Engineer Intern *Remote*

- Contributed to a social discovery mobile app (IOS/Andriod), enabling 100+ beta users to connect through proximity.
- Refactored the community page into React Native and Typescript, achieving 1.5x faster transition times.
- Integrated a C#/.NET data pipeline to process and store API data in PostgreSQL, cutting system error rates by 20%.

John Deere January 2024 – May 2024
Data Science Intern - Purdue Data Mine *West Lafayette, Indiana*

- Developed Python time-series forecasting models like S-ARIMA and Exponential Smoothing with JSON/CSV API support for 100,000+ part centers, reducing inventory costs by 10%.
- Eliminated 90% of unclean data through IQR outlier handling, null removal, and bucketing with Pandas and NumPy.
- Cut runtime by 5 minutes via automated model selection using seasonality tags with statsmodels and Scikit-learn.

Projects

Huddle Social | *Next.js*, *React.js*, *Firebase*, *TypeScript*, *AWS*

- Built the Huddle Social web app with Next.js, React, TypeScript, and Firebase Auth, serving 600+ users (30+ DAU).
- Accelerated signup flow by 25% with a Node.js scraper that auto-fills student names from a 10k+ Purdue directory.
- Deployed on AWS EC2 with secure routing and environment configs, sustaining 80% uptime.

Hack the Future Interview System | *React.js*, *Node.js*, *Express.js*, *MongoDB*

- Built a system for the Purdue Hack the Future club to simplify interview management for 6 executive members.
- Implemented JWT-secured REST API in Express.js with Mongoose, achieving <50 ms interview form lookups.
- Lowered server boot time by 15% by containerizing backend and MongoDB using pre-built Docker images.

Custom Unix Shell | *C*, *C++*, *Flex/Bison*, *GDB*, *Valgrind*, *Linux POSIX API*

- Programmed command parsing and execution in C/C++ with Flex/Bison, supporting I/O redirection and line editing.
- Leveraged Linux POSIX API (fork/exec, pipes) and kernels, ensuring 0 memory leaks over 1K GDB/Valgrind runs.

Technical Skills

Programming Languages: Java, Python, JavaScript, C, HTML, CSS, C#, TypeScript, Groovy, SQL
Frameworks & Libraries: React Native, React.js, Next.js, Node.js, Express.js, .NET, Pandas
Tools: Docker, Jenkins, Firebase, Figma, PostgreSQL, MongoDB, REST API, Git, AWS, Jira
Concepts: Backend Development, Frontend Development, Fullstack Development, Agile Methodology, CI/CD pipelines