

# ARUNIT BAIDYA

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## EDUCATION

**Northeastern University, Khoury College of Computer Sciences**

*Master of Science, Computer Science*

Aug 2024 – April 2026

Boston, MA, US

**Anna University, PSG College Of Technology**

*Bachelor of Engineering, Computer Science and Engineering*

Aug 2018 – July 2022

Coimbatore, India

## WORK EXPERIENCE

**Arcesium** | Data, Backend, Cloud-Native

**Software Engineer**

Jul 2022 - Jul 2024, Bangalore

- Profiled and optimized **Python & Java code** performing **Spark** operations in end-to-end big data system to meet client SLOs ( $\leq 10$  min time to output with 1,000–100,000 records per input file), **improving process times by 40%**.
- Built JSON config-driven data-filtering module for Spark ETL in **reducing compute usage by 30%** via partition pruning.
- Optimized resource provisioning sizes (T-shirt model) in **ArgoWorkflow** and **Kubernetes**, **adopted in 10+ workflows**.
- Automated CI/CD pipelines with **Jenkins, Docker, & Kubernetes**, integrating JUnit for *testing ensuring 85% coverage*.
- Implemented **SQL** for SCD type 2 merge, enabling bi-temporality & historical querying, state of data at point in time.
- Created LLD documentation with business logic translation, **reducing cross-functional team inquiries by 50%**.

**Software Engineering Intern**

Feb 2022 - May 2022, Remote

- **Increased ETL throughput by 70%** via preprocessing stage to split heterogeneous data for parallel processing.
- Built data ingestion module supporting multiple input types with schema validation for data consistency.
- Boosted ETL reliability by engineering module in **Python** to extract malformed data to global kickouts Delta-table.
- Enhanced ETL observability by efficiently logging run history and storing execution stats in Delta-Tables.

**Software Engineering Intern**

May 2021 - Jul 2021, Remote

- Automated PDF Parsing in **Python** to identify and parse tabular information using OpenCV and Camelot.
- Implemented **CRON processing** to parse PDFs mapped against filters & annotations, **saving 4 hours of work/week**.

## PROJECTS

**Distributed Scalable TODO-List API ([GitHub](#))** | Golang, Kafka, Redis, Docker, Ansible

- Designed a highly scalable REST API for TODO-List application using **PostgreSQL**, with design extensible to new data storage methods & query strategies, and **Ansible** setup for automated deployments via **GitHub CI/CD** pipeline runner.
- Deployed application using **Docker & Kubernetes**, with JWT authentication, rate limiting, **Kafka** for event-driven architecture, **Redis** for caching and **batch database updates**, and **Prometheus** for metrics collection.

**Image Processing Application ([GitHub](#))** | Java, SOLID, MVC

- Developed an image processing application in **Java** supporting CLI, script, and GUI inputs, demonstrating **SOLID principles**, higher order functions, **object-oriented design**, **MVC**, design patterns, and **test-driven development**.

**Qthreads ([GitHub](#))** | C, Multithreaded Programming

- Engineered a **user-space thread library** in **C** implementing thread management operations (create, yield, join, sleep) and concurrency management constructs (mutex, condition variable) in a **cooperative threading** model.

**Simple Linux Shell ([GitHub](#))** | C, Linux

- Built a Linux shell in **C** with command execution for internal & external commands, piping, & I/O redirection using **fork**.

## SKILLS

<b>Programming Languages:</b>	Python, Java, Go, C, C++, JavaScript, HTML, CSS
<b>Frameworks and Libraries:</b>	REST, Redis, Swing, Pytest, JUnit, Argo Workflow, Ansible, Prometheus
<b>Data Engineering:</b>	Spark, Kafka, ETL, DeltaLake, Snowflake, PostgresDB, SQL, NoSQL, RDBMS
<b>Cloud and DevOps:</b>	API development, AWS, Elasticsearch, SNS, SQS, Terraform, Docker, Kubernetes
<b>Software Development:</b>	CI/CD, Agile Development, Test-Driven Development, Code Reviews, Git