

# Chandrasekar Vasan

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## EDUCATION

**Master of Science in Computer Science, University of Texas at Arlington** | Arlington, TX, USA **Jan 2025 - Dec 2026**  
(GPA: 3.83/4.00)  
*Coursework:* Artificial Intelligence | Data Analysis & Modelling Techniques | Design & Analysis of Algorithms

**Bachelor of Technology in Information Technology, Anna University** | Chennai, TN, India **Aug 2020 - Jun 2024**  
(GPA: 4.00/4.00)  
*Coursework:* Software Engineering | Operating Systems | Big Data Analytics | Cloud Computing | Computational Intelligence | Automata and Compiler Design

## WORK EXPERIENCE

**University of Texas at Arlington** **Aug 2025 - Present**  
**Graduate Research Assistant – System Administrator** **Arlington, Texas, USA**

- Deployed and configured 60+ lab machines across multiple Linux distributions and Windows with security hardening for 200+ users
- Designed and managed an Information Security Lab using Rocky Linux 9 with Oracle VirtualBox, maintaining VM snapshots and stability
- Automated lab tasks using shell scripting for system updates, VM management, and user setup, improving workflow efficiency

**eNoah iSolution** **Jan 2024 - Apr 2024**  
**Software Engineer Intern** **Chennai, Tamil Nadu, India**

- Built interactive React.js frontend components and connected CRM APIs with PostgreSQL/MongoDB backends to automate loan processing, achieving ~25% efficiency gains
- Developed a machine learning-based loan approval system using Python (scikit-learn) with ~12% improvement in accuracy and containerized deployment pipeline using Docker
- Implemented a comprehensive loan approval workflow system with improved predictive risk evaluation and integrated PyScript for cross-environment deployment

**Kun Auto Co Pvt Ltd** **Aug 2023 - Sep 2023**  
**Software Engineer Intern** **Chennai, Tamil Nadu, India**

- Delivered a full-stack automobile price estimation application using Node.js (Express.js), React.js, and PostgreSQL, supporting ~50 test scenarios daily for internal validation
- Developed a regression-based price prediction service in Python with NumPy and Pandas optimizations, improving stability by ~15% and resolving overfitting through hyperparameter tuning
- Implemented well-structured API endpoints and server-side validation logic, reducing error rates and improving system maintainability across diverse automobile datasets

## PROJECTS

### LogTrace – Centralized Log Monitoring System

- Created a distributed logging service to aggregate and index logs from multiple microservices, handling ~10K log events per minute
- Implemented full-text search and filtering using Elasticsearch and visualized error trends via a React-based dashboard
- Designed a retention and archiving mechanism that reduced storage overhead by ~25% through configurable data TTL policies

### QueryForge – SQL Query Parser and Executor

- Built a lightweight SQL engine capable of parsing and executing SELECT, WHERE, and JOIN queries on CSV datasets with ~92% query correctness rate compared to SQLite
- Developed a custom query parser using Python's PLY and implemented cost-based optimization for improved scan efficiency
- Integrated an in-memory indexing mechanism, reducing query execution time by ~35% for large datasets

### CloudCache – Distributed Key-Value Store

- Designed a fault-tolerant caching system inspired by Redis, handling ~5K key-value operations per second across replicated nodes
- Implemented leader election and replication using Raft consensus protocol to ensure data consistency during node failures
- Containerized services with Docker and configured Prometheus metrics to monitor latency, replication delay, and node health

## TECHNICAL SKILLS

- **Languages & Frameworks:** Python, C, C++, R, JavaScript, React.js, Node.js, Django, Flask, Bash/Shell Scripting
- **Tools & Technologies:** RESTful APIs, Docker, PostgreSQL, MongoDB, MySQL, Git, Oracle VirtualBox, VMware, Linux (multi-distro)
- **Core Competencies:** Web Development, Full-Stack Development, Algorithms & Data Structures, OOP, Database Management, SDLC, Software Architecture, Networking, IoT, System Administration, Virtualization, Information Security

## CERTIFICATIONS & ACHIEVEMENTS

- **Secured second place for paper presentation at TECHNOPHILIA 2022 National-level symposium** - Developed SVM-based ML model for Parkinson's detection achieving 87% accuracy using Python (Pandas, NumPy, Scikit-learn).
- **Certifications:** Google Data Analytics Certified, IBM Hands-on Experience to Linux Command and Shell Scripting, Meta Front-End Development