ACHU VIJAYAKUMAR
SOFTWARE ENGINEER

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PROFESSIONAL SUMMARY

Backend focused Software Engineer with demonstrated success in building automation platforms, data pipelines, and real time systems. Skilled in distributed architectures using Redis, multi process agents, and multi user Streamlit dashboards. Proven ability to lead backend architecture end-to-end: designing Redis driven workflows, scaling services, and deploying integrated APIs. Strong foundation in debugging, trading automation, file based workflows, and developer tooling. Built execution pipelines, real time analytics engines, and system infrastructure powering algorithmic trading workflows.

SKILLS

- **Languages**: Python, Java, JavaScript
- **Backend & Frameworks**: Streamlit, J2EE, FastAPI, Redis
- **Frontend Tools**: Streamlit**,** HTML, CSS
- **Cloud Platforms**: AWS (S3, EC2)
- **Data & Storage Technologies**: Redis, QuestDB, MySQL, MotherDuck (DuckDB), Pandas, CSV pipelines
- **Tools**: Linux, Git, Docker, crontab, systemctl, pdfplumber, Eclipse IDE, VS Code, Antigravity
- **Additional Skills**: Stock Market Trading – Experience in technical analysis, market trend assessment, and risk management

PROFESSIONAL EXPERIENCE

Software Engineer – LPE Software Solutions Pvt. Ltd.   **September 2025 – Present**

Poozhi – Distributed Backend Trading Platform
- Engineered an event-driven backend using Redis as the central message bus, decoupling the UI from parallel processing agents.
- Orchestrated task management via impl.py, coordinating agent polling (orderbook, balance, positions) and triggering downstream Redis-based automation.
- Established a custom Order Management System (OMS) to coordinate multi-leg trades using atomic Redis HDEL locking for concurrency control.
- Designed and enforced an OI crossover automation engine using Net Put/Call tracking, spot-based triggers, and hysteresis filters.
- Executed a real-time payoff simulator with vectorized Black-Scholes pricing and live Greeks rendered via Plotly inside Streamlit.
- Initiated watcher modules (e.g., LevelCEWatcher) to monitor breakout levels and push actionable intents.
- Applied structured logging, self-healing token auth, and Telegram notifications for system visibility and reliability.
- Incorporated MotherDuck to warehouse PnL history, utilizing SQL-based FIFO logic via DuckDB window functions.
- Developed a robust PDF ingestion and ETL routine to normalize trade data using pdfplumber and regex-based table parsing.
- Applied cache-warming strategies to preload 50k+ instrument entries into Redis hashes, enabling O(1) lookups.
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Streamlit UI & Redis-Driven Workflow Tools
- Constructed multi-tab Streamlit dashboards with real-time feedback and Redis-bound actions (e.g., PLACE_ORDER, FETCH_BALANCE).
- Enhanced form components using session state and dynamic field generation for expiry, strike, option type, and lot.

File Automation, CLI Scripts
- Generated UID-specific CSV pipelines to persist live trade/book data across users.
- Built CLI tools (test_ui.py, cli_fetch.py) to validate Redis calls and API responses.
- Enforced automation for data refresh, log cleanup, and Redis expiry management using cron and bash.

Nifty Analytics Toolkit
- Created automation flows for data extraction and transformation from internal trading records.
- Executed expiry selection and instrument resolution using dropdown-driven UI components backed by local text-based lookup.
- Generated LTP/strike queries for real-time option discovery.

Scrutiny Assistant, Commissioner for Entrance Examinations, Kerala   **March 2025 – April 2025**

- Reviewed and validated 5500+ KEAM exam applications; performed 6000+ re-verifications.
- Issued, cleared, and reissued memos based on flagged document discrepancies.
- Coordinated with applicants and centers; resolved 100+ support queries.

Technical Assistant (Software), ActsInfo   **July 2022 – July 2024**

- Delivered 4 web applications with dynamic content and secure membership features.
- Created MySQL-backed systems for registration, payments, and profile workflows.
- Improved site performance with responsive UIs using HTML, CSS, and JavaScript.

EDUCATION

- **Bachelor of Technology in Electronics and Communication Engineering**,
  APJ Abdul Kalam Technological University, Marian Engineering College, Thiruvananthapuram.
- **Hindi Sahithyacharya**,
  Kerala Hindi Prachar Sabha, Thiruvananthapuram.
- **Higher Secondary Education in Computer Science**,
  Kendriya Vidyalaya SAP, Thiruvananthapuram.

COURSES & CERTIFICATIONS

- **Oracle Cloud Infrastructure 2025 – Generative AI Professional** | **Certificate**
  Certified in building, evaluating, and deploying LLM-based applications on OCI using RAG, LangChain, and Generative AI Services.
- **Oracle Cloud Infrastructure 2025 – AI Foundations Associate** | **Certificate**
  Gained foundational understanding of AI/ML, deep learning, and generative models in Oracle Cloud
- **Oracle Cloud Infrastructure 2025 – Foundations Associate** | **Certificate**
  Validated knowledge of core OCI services and public cloud concepts, including compute, storage, networking, and identity fundamentals.
- **AWS SimuLearn: Cloud Computing Essentials – AWS** | **Certificate**
  AWS Cloud fundamentals; hosted static website using Amazon S3.
- **AWS SimuLearn: Cloud First Steps – AWS** | **Certificate**
  AWS infrastructure, Regions, Availability Zones; deployed Amazon EC2 instances.
- **Java & J2EE - Keltron Knowledge Centre** | **Certificate**
  Core Java: OOP, exception handling, multithreading, I/O, lambda expressions
  JDBC, Servlets (life cycle, config, session tracking), JSP, JavaBeans, JSTL, EL.
- **Cybersecurity Fundamentals – IBM SkillsBuild** | **Certificate**
  Cyber threats, attack types, cryptography, security strategies, prevention, and response.

LANGUAGES PROFICIENCY

- English: Fluent
- Hindi: Proficient
- Malayalam: Native