

# SecureData Financial Corp. - Interview Report

## Role: Graduate Software Engineer

**Candidate:** Candidate

**Date:** 2025-04-11 08:25

**Interviewer:** Alexi

**Interview ID:** d1e8435e3f36

### Overall Performance Summary

Average Score: N/A (no valid scores)

Average Confidence: N/A (no valid analyses)

### Detailed Question & Answer Evaluation

#### Turn 0: Question

Initial Greeting / Ready Check

#### **Candidate Response:**

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_0\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

*Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_0\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.*

#### **Evaluation:**

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_0\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

#### Turn 1: Question

Imagine you're designing a RESTful API for the Intelligent Fertilizer Recommendation System. You need to balance the need for efficient data retrieval with the potential for high traffic volume from many farmers. Describe the trade-offs you would consider between using different database technologies (e.g., PostgreSQL vs. a NoSQL solution) and how your choice would impact the API's performance and scalability.

#### **Candidate Response:**

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_1\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

*Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_1\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig*

must either be unspecified or match the value in the WEBM OPUS header `48000`.

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_1\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 2: Question

You're tasked with designing a system to handle the ingestion and processing of large amounts of environmental data (temperature, humidity, soil composition) for use in your fertilizer recommendation system. Describe the architecture you would choose, considering factors like data storage, data processing, and potential scaling needs. What technologies would you use and why?

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_2\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

*Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_2\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.*

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_2\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 3: Question

Write a short Python function that takes a list of dictionaries (representing sensor readings from a Wireless Sensor Network like in your research project) and returns the average sensor value for a specific sensor ID. Assume each dictionary has keys "sensorid" and "value". Handle potential errors, such as missing sensor IDs or non-numeric values.

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_3\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

*Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_3\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.*

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_3\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 4: Question

During testing of your API for the fertilizer recommendation system, you discover that the model sometimes returns incorrect recommendations, especially under certain environmental conditions. Describe your approach to debugging this issue, including the tools and techniques you would use to identify the root cause and propose a solution.

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_4\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_4\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_4\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 5: Question

In your Energy-Efficient WSN Protocol Research, you collaborated with others. Describe a situation where you encountered a disagreement or conflict during the research process. How did you navigate this challenge and reach a resolution that was beneficial to the team?

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_5\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_5\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_5\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 6: Question

This role requires continuous learning and adaptation to new technologies. Describe a time you had to learn a new technology or programming language quickly. What strategies did you use, and what challenges did you overcome?

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_6\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_6\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_6\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

### Turn 7: Question

Let's discuss your "Intelligent Fertilizer Recommendation System" project in detail. Walk me through your design process, from data collection and model selection to API development and deployment. What were the biggest technical challenges you faced, and what were the most important lessons you learned during the development of this system? What aspects of the project are you most proud of, and what would you do differently if you were to revisit this project today?

### Candidate Response:

*[STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_7\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

*Confidence Analysis Note: Skipped due to STT Error: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_7\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.*

### Evaluation:

*[Text evaluation skipped due to: Error during STT for 87b61218-ea0a-4936-a542-d1e8435e3f36\_turn\_7\_response.webm: 400 sample\_rate\_hertz `16000` in RecognitionConfig must either be unspecified or match the value in the WEBM OPUS header `48000`.]*

## Appendix A: Candidate Resume Text

Karthik Yadav

(cid:131) +91 8143094363 # vkarthikyadav88@gmail.com (cid:239) LinkedIn § GitHub

### Education

Vellore Institute Of Technology, Vellore Expected Graduation: June 2026

Bachelor of Technology in Computer Science Current GPA: 7.44/10

Narayana E-Techno School, Hyderabad Graduated: April 2022

XII Standard

### Skills

Programming Languages: C/C++, Python, Java, R programming

Technologies: Google Cloud, Machine Learning, Deep Learning, Data Science, PostgreSQL, LLM-RAG

Core Competencies: Collaboration, Active Listening, Communication

### Projects

Intelligent Fertilizer Recommendation System | Python, Machine Learning, API 2024

- Developed a machine learning model to recommend optimal fertilizers and farming techniques based on environmental parameters.
- Deployed the model with a user-friendly API to enhance accessibility for farmers and agricultural experts.

Energy-Efficient WSN Protocol Research | Python, Network Simulation 2024

- Co-authored a research paper on a novel hybrid-clustering protocol for Wireless Sensor Networks (WSN).
- Designed and implemented a robust multi-hop communication protocol for wireless sensors, resulting in a 30% increase in network coverage.
- Conducted comprehensive literature reviews and data analyses to support research findings.

AI-Powered News Channel | Web Crawling, React.js, Python, Unreal Engine 2025

- Developed a scalable AI-driven news platform that scrapes and curates personalized news feeds for users.
- Implemented a custom web crawler to extract real-time news articles and classify them based on user preferences.
- Built an interactive frontend using React.js and Tailwind CSS, ensuring a seamless user experience.
- Integrated Unreal Engine for AI avatar-based news anchoring, rendering synchronized facial animations from audio input in realtime.

### Experience

Standards Club VIT Jan 2023 - 2024

Board Member Vellore, India

- Selected as one of the top 10 candidates out of 2000+ applicants for the board member position.
- Coordinated 5 major events, attracting over 1000 attendees and increasing club membership by 25%.
- Launched an entrepreneur outreach program, driving a 30% increase in successful business connections for club members.

VIT Film Society Jan 2023 - 2024

Senior Core Member, Director Vellore, India

- Directed 3 short films, reaching over 11,000 views on social media platforms.
- Trained a team of 15 junior members in scriptwriting, cinematography, and editing.
- Curated a film festival showcasing over 20 student-made short films, drawing more than 300 attendees.

Debate Society VIT Jan 2024 - 2025

Senior Core Member Vellore, India

- Achieved top 3 positions in 5+ debate competitions.
- Mentored 5 junior debaters, enhancing public speaking skills and competition performance by 20%.

- Organized and moderated campus-wide debate events, expanding society membership by 30%.

#### Awards & Achievements

- Awarded Best Speaker, VIT Annual Debate Tournament, Riviera 24, VIT's largest debate competition with 150+ participants 2024.
- Won Best Project in the Media and Entertainment track at DevSoc'25, India's largest student-run hackathon, competing against 140+ teams 2025.

## Appendix B: Job Description Text

Job Title: Graduate Software Engineer

Location: Austin, TX / Remote Option Available

Company: Innovate Solutions Inc.

### About Us:

Innovate Solutions Inc. is at forefront of creating cutting-edge tools for developers. We foster a collaborative environment where learning and growth are paramount. Join our team and help build the future of software development!

### Job Description:

We are seeking highly motivated and talented recent graduates to join our engineering team as Graduate Software Engineers. This is an entry-level position designed for individuals passionate about software development and eager to kick-start their careers. You will receive mentorship from senior engineers, participate in comprehensive training programs, and contribute to real-world projects under guidance.

### Responsibilities:

- Participate in the full software development lifecycle (design, develop, test, deploy, maintain) under the guidance of senior engineers.
- Write clean, well-documented, and testable code in languages like Python or Java.
- Learn and contribute to our existing codebase and infrastructure.
- Assist in debugging and resolving software defects.
- Collaborate effectively with team members, product managers, and designers.
- Participate in code reviews to learn best practices and maintain code quality.
- Document technical specifications and processes.
- Continuously learn new technologies and software development practices.

### Qualifications:

- Bachelor's degree in Computer Science, Software Engineering, or a closely related technical field, completed within the last 12 months.
- Solid understanding of fundamental computer science concepts, including Data Structures, Algorithms, Operating Systems, and Databases.
- Proficiency in at least one object-oriented programming language (e.g., Python, Java, C++).
- Strong analytical and problem-solving skills.
- Excellent communication and interpersonal skills.
- A strong desire to learn, grow, and take initiative.
- Ability to work effectively both independently and as part of a team.

### Nice to Haves:

- Academic projects demonstrating programming skills.
- Basic familiarity with version control systems like Git.
- Exposure to web development concepts (HTML, CSS, JavaScript) or frameworks.
- Basic understanding of cloud computing concepts (AWS, Azure, GCP).
- Familiarity with Linux/Unix environments.
- Contributions to personal projects or open-source communities (e.g., GitHub profile).

### Why Join Us?

- Structured mentorship program.
- Opportunity to work on impactful projects.
- Continuous learning and development opportunities.
- Collaborative and supportive team culture.
- Competitive salary and benefits package for entry-level roles.