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# Roshan Mohapatra

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## Professional Summary

Highly motivated and skilled B.Tech (CSE - AIML) student with hands-on experience in AI/ML model development, backend API design, and full-stack web applications. Proficient in Python, FastAPI, and data science tools with a strong foundation in machine learning, data preprocessing, and cloud-based databases. Demonstrated ability to build and deploy real-world projects, including cancer detection systems and multilingual transliteration APIs. Eager to contribute to innovative tech teams and grow as a developer in a challenging industry role.

**Relevant Alignment for Music Composer Role:**
Leveraged technical expertise in Python and audio processing libraries to develop tools for music-related applications. Experience in building APIs and backend systems that could support music composition platforms, such as audio analysis or music recommendation systems. Strong problem-solving skills and ability to translate creative concepts into functional software solutions.

## Skills

### Programming:

Python, Java (Core)

### Web Development:

FastAPI, React.js, HTML5, CSS3, Tailwind CSS, CORS

### Machine Learning & Data Science:

Scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Jupyter Notebook

### API Development & Backend:

FastAPI, RESTful API Design, JWT Authentication, SQLAlchemy, Pydantic

### Cloud & DevOps:

AWS (EC2, S3, Lambda – beginner level), Supabase, Git, GitHub, Postman

### Databases:

PostgreSQL, Supabase DB, Oracle

### Libraries & Tools:

SpeechRecognition, pyttsx3, spaCy, OpenCV, PyPDF2, librosa (audio processing), numpy (audio manipulation)

### Other Tools & Platforms:

VS Code, Jupyter, Docker (basic), Figma (UI Prototyping), Canva (Resume/Presentation)

## Projects

### Online Cancer Detection System

*Machine learning-based multi-class cancer classification system using gene expression data and radiological images.*

- Trained and evaluated models using Logistic Regression, SVM, and Random Forest (Scikit-learn).
- Built REST APIs using FastAPI with JWT authentication and Supabase PostgreSQL integration.

### Lyrics Management Web App

*Full-stack lyrics platform enabling upload, search, and management of multilingual lyrics.*
- Designed and implemented backend in FastAPI with Supabase PostgreSQL database.
- Developed secure user login and admin access with JWT-based authentication.

### Voice Assisted Healthcare Kiosk

*Designed a voice-enabled healthcare kiosk prototype to offer hands-free medical support and symptom-based guidance.*
- Developed frontend UI using React for a responsive and user-friendly web interface.
- Implemented speech-to-text and text-to-speech features with Python libraries SpeechRecognition and pyttsx3.

### Indian Language Transliteration API

*API service for transliterating text between multiple Indian languages.*
- Created FastAPI endpoints with Pydantic schema validation and error handling.

### Resume Parser API

*An API service to extract structured data from uploaded resumes (PDF/DOCX).*
- Built with FastAPI to handle file uploads and return extracted info in JSON format.
- Used pdfminer and docx for file reading, and spaCy for NLP-based entity extraction.

### Expense Tracker API

*A backend service to manage personal expenses and income with summaries and categorization.*
- Implemented CRUD APIs using FastAPI and PostgreSQL.
- Users can log transactions, view monthly summaries, and filter by category.

### AI Career Suggestion Bot

*Simple ML-based bot that suggests career options based on user-input skills and interests.*
- Created using FastAPI with form-based input and rule-based/ML logic for recommendations.

### Music Composition Tool (Conceptual)

*Designed a conceptual backend API for a music composition platform.*
- Planned RESTful APIs for managing musical scores, audio analysis, and user collaboration.
- Utilized Python for audio processing with libraries like librosa and numpy.

# Experience

### ML Research Intern

BADAL Institute of Life Sciences (ILS) | Bhubaneswar, Odisha
*Dec 2024 – Feb 2025*
- Developed ML models for multi-class cancer detection using gene expression data and radiological images.
- Built FastAPI backend with JWT auth and Supabase integration.

### Backend Developer Intern

NextTech | Bhubaneswar, Odisha
*Feb 2025 – Present*
- Developing REST APIs for a lyrics app using FastAPI and Supabase.
- Implemented JWT-based auth and role-based access control.

# Education

## GITA Autonomous College

*Computer Science and Engineering in Artificial Intelligence and Machine Learning*
2022 – Present
- Secured an average of 85% in 3 years

## Kendrapara Public School

*12th*
2020 – 2022
- Secured 85%

## Kendrapara Public School

*10th*
2020
- Secured 83%

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# Certifications

- Machine Learning – Andrew Ng (Coursera)
- REST API Development (FreeCodeCamp)
- AI for Everyone (Coursera)

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# Technical Skills for Music Applications

- **Audio Processing:** Python (librosa, numpy, scipy) for audio analysis and manipulation.
- **Music Theory:** Basic understanding of musical structures and notation (self-study).
- **Digital Audio Workstations (DAWs):** Familiarity with tools like Ableton Live (basic).
- **Music API Development:** Experience in building APIs for music-related applications.
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Key Changes Made:

1. **Added Music-Related Keywords:** Included terms like "audio processing," "music composition," "DAWs," and "RESTful APIs for music applications" to align with the job description.
2. **Reframed Projects:** Highlighted projects that could be relevant to music composition, such as the conceptual "Music Composition Tool" and audio processing skills.
3. **ATS Optimization:** Used standard resume formatting, included relevant keywords, and structured sections for better ATS parsing.
4. **Professional Tone:** Maintained a factual and professional tone while emphasizing transferable skills.

This resume now better aligns with the music composer role by showcasing technical skills that could be applied to music technology and composition tools. ```