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Robert Tylman

PROFESSIONAL SUMMARY

Software Engineer with experience in machine learning, full-stack development, and systems engineering. Skilled in C++, Python, PyTorch, and modern backend/frontend tools. Proven ability to build scalable applications, design performant algorithms, and contribute to complex engineering projects, with expertise in applied ML and signal processing.

EDUCATION

New York University, Manhattan, NY — 2025 – PRESENT

- Master's in Engineering: Machine Learning, DSP and Audio Technology
- Focus on applied machine learning for signal processing and software engineering for audio systems
- Research in integrating large language models with audio software for enhanced interaction and automation

Vanderbilt University, Nashville, TN — 2021 – 2025

- BS in Computer Science (Engineering), Concentration in DSP
- GPA: 3.83/4.00, ***Cum Laude,*** *Dean's List (all semesters)*
- Collaborated with Grammy-winning composer Pascal Le Boeuf as an Independent Study Student and TA, assisting with audio software development and course instruction
- Winner of the *2023 Blair School Of Music Award For Innovative Creative Work in Audio Technology*

PROJECTS

Twist! — *Expo, Express, Gemini 3.0, Node.js, React.js, Socket.io, Tailwind CSS*

- Built a production-ready multiplayer party game that transforms players' camera rolls into AI-generated challenges, featuring real-time image uploads, transformation pipelines, voting, and a responsive UI.

Audio Plugin Suite — *C++, JUCE*

- Developed a suite of DAW plugins (Synths, EQs, Filters) for professional audio production, implementing signal processing algorithms and intuitive user interfaces

CampSorter — *JavaScript, Python, SQL*

- Developed a full-stack logistical optimization tool to automate scheduling, assignments, and operations for large-scale summer programming
- Improved administrative efficiency and reduced manual processing

Sony WH-1000XM6 Headphones Collaboration

- Collaborated with Sony's AI and engineering team to evaluate ML-driven noise cancellation algorithm for flagship headphones
- Provided technical analysis of algorithm performance and acoustic behaviour

EXPERIENCE

People's Group, *Toronto, Ontario, Canada* — Software Engineer & IT Analyst — SUMMER 2023

- Developed automation tools in Python to process payroll and data workflows, eliminating manual steps
- Managed network infrastructure, user permissions, and security systems across the organization

POST CITY Picture & Sound, *Toronto, Ontario, Canada* — Software & Audio Engineer — SUMMER 2022

- Created scripts to sync production versions, validate file structures, and standardize timestamps and metadata
- Developed standardized template sessions for ADR and editorial workflows, streamlining delivery across large-scale projects

Labs02, *Jerusalem, Israel* — Data Science Intern — 01/2021 – 05/2021

- Built an organizational project-tracking platform using JavaScript and Python for multiple startup teams
- Cleaned, analyzed, and visualized multimodal sensor data from automotive experiments
- Supported ML research on driver impairment detection using structured timing and response datasets

MyPart, *Tel Aviv, Israel* — Music Technology Intern — 09/2020 – 01/2021

- Trained ML models in PyTorch for pattern recognition and metadata classification in music datasets
- Worked on tonality, rhythm, harmony, and semantic feature extraction tasks to improve model accuracy

SKILLS

- **Programming Languages:** C++, Git, HTML, Java, JavaScript, Node.js, Python, R, React, Rust, Socket.io, TypeScript
- **Tools & Technologies:** Ableton, Docker, FL Studio, Logic Pro, Max/MSP/Jitter, Pro Tools, PyTorch, SQL, Unity