

Salvador Baray

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EDUCATION

New York University - Tandon School of Engineering

B.S. Integrated Design and Media | M.S. Computer Science
Minor, Business of Entertainment, Media, and Technology at NYU Stern

Brooklyn, NY
Aug 2024 - May 2029

EXPERIENCE

Course Assistant - Programming and Problem Solving 1 | NYU Tandon

Aug 2025 - Present

- Lead weekly lab sessions extending and clarifying lecture topics for undergraduate students.
- Hold one-on-one office hours; grade assignments and deliver written feedback.

A/V Installation Intern | Harvestworks Digital Media Arts Center

May - Sep 2025

- Installed, configured, and struck audio/visual art installations at Governor's Island.
- Collaborated directly with artists to implement interactive exhibits using A/V management software.
- Guided public visitors through interactive media works.

Coding Tutor | theCoderSchool South Bay

Sep 2023 - Jul 2024

- Designed individualised project-based curricula for each student (ages 7-17) in Scratch, Python, Java, C++, and Unity.
- Facilitated 3D printing and CAD instruction with Tinkercad and Onshape.

PROJECTS

Hybrid Analog/Digital Spring Reverb | NYU Tandon

Dec 2025

- Fabricated PCB clones of Tascam 424 preamp circuits; integrated them as driver/recovery amps for a physical spring tank with DSP (C++) on a Daisy Seed microcontroller.

Video DAW | youtu.be/0yt8WVD2njI

May 2024

- Built a real-time audio/video looper in C++ (MiniAudio + OpenCV); diagnosed and resolved PCM frame-synchronisation drift between audio and video streams.

Van Gogh Brushstroke Embroidery Digitizer | salvador.baray.com/blog

Dec 2023

- Computer-vision pipeline (Python/OpenCV) converting raster artwork into embroidery toolpaths via K-Means clustering, contour detection, and spectral clustering.

Word Web - Semantic Word Cloud | word-cloud-alpha.vercel.app

Feb 2026

- Force-directed word cloud with spring-physics simulation and TensorFlow.js sentence embeddings; mutual k-NN graph rewires layout into a semantic arrangement.

LEADERSHIP & ACTIVITIES

Tech Lead - VIP: Wearable Art and Design | NYU Tandon

Aug 2025 - Present

- Soldered 840 addressable LEDs (WS2812) into a modular dress; implemented movement-reactive lighting with Arduino and ran team skill-shares on soldering and LED driver fundamentals.

UI Engineer - VIP: Education for the Metaverse | NYU Tandon

Aug 2025 - Present

- Design and implement spatial UI for VR/AR environments in Unity (C#); advocate for semi-transparent frosted-glass panels that preserve environmental presence.

Manufacturing Lead - FRC Robotics Team 3501 | Fremont High School

Aug 2020 - Jun 2023

- Wrote a gCode generator for the team's CNC parts; trained peers on heavy machinery, developed STEM curriculum for local elementary schools, and built a parts-tracking system.

SKILLS

Languages: C++, Python, Java, C#, Swift

Hardware: Arduino, Daisy Seed / libDaisy, WS2812 LEDs, PCB layout, oscilloscope / multimeter debugging

3D & Fabrication: Onshape, Tinkercad, Blender, CNC machining, FDM 3D printing, gCode

Tools: Git, Unity, Unreal Engine 4, OpenCV, Figma, Adobe Creative Suite, Claude Code