

Thomas Gansa

Brooklyn, NY | 917-280-3525 | tdg2121@columbia.edu | <https://www.thomasgansa.com> | <https://github.com/tomg223>

EDUCATION

COLUMBIA UNIVERSITY

Computer Science BA

Manhattan, NY

May 2025 Graduation

WORK EXPERIENCE

Research Assistant @ CEAL(Computer Enabled Abilities Laboratory)

New York, NY, Jan 2025 – Present

- Leading design and implementation of *SwiftUI* front-end for iOS exploration assistance system enabling blind and low-vision users to explore their environment using spatialized audio descriptions that leverage Google street view imagery.
- Handle real-time location data, historical information retrieval, head positional data, as well as 3d-spatial audio using *Swift*
- Built real-time location smoothing *Python* script using Kalman Filtering for more accurate and natural location processing.

Software Developer Intern @ Tonic Group

New York, NY, Jun 2024 – Sep 2024

- Spearheaded the design and development of a clinical education platform for 2,000+ healthcare providers (PCPs, pediatrician, dermatologists, and nurses) across NYU Bellevue and Langone hospitals.
- Built responsive websites for clients using *Angular*, *Typescript*, *Javascript*, managing full development cycle from initial client specifications to final deployment. Designed in Photoshop.

Software Developer Intern @ BuybleNYC

New York, NY, May–Aug 2023

- Lead development with a 3-person team to build a proto mobile app from scratch using Flutter and Dart in small early-stage Craigslist-style student startup founded by Columbia graduates. Utilized *Dart*, *Flutter*, *Firebase*, and *Google OAuth*
- Engaged with the UI/UX team weekly to discuss design and features

Cheesemonger @ Sahadi's Industry City

Brooklyn, NY, Jun–Aug 2021

- Managed inventory, placing weekly 1000\$ + orders of cheese and charcuterie products
- Independently made in-house products such as fresh mozzarella and pita
- Prepared high-end charcuterie boards for catering and in-house dining

Student Internship in Technology @ Saint Ann's High School

New York, NY, Jan 2018 – Jun 2018

- Provided school teachers and staff with friendly technical support
- Worked with data in Excel, gained familiarity with network and wireless protocols and architectures for large educational institution

PROJECTS

Personal Website: www.thomasgansa.com

Sep 2024

Used: ReactJS, NextJS, Framer Motion

- Designed and built my personal website showcasing my interests and technical skills

Bullish: Financial Sentiment Feed

Jan 2025-Present

Used: NextJS, ReactJS, TailwindCSS, Turso DB, SQL, Supabase

- Collaborate with PwC PTM Consultant and Google SWE partners to develop a full-stack financial sentiment analysis platform that aggregates and processes content creator insights across multiple platforms(Youtube, Twitter, more to come), implementing AI-driven video/text analysis to distill market perspectives into a simple feed for users. Looking to go to market in the coming months
- Designed and implemented REST API endpoints using Next.js and SQL queries to fetch financial creator metrics and sentiment data from Turso DB, enabling core platform features and analytics dashboard, while integrating Stripe payment system for subscription management=

Image Processing Application

Feb 2024

Used: Java, Java Swing

- I built a Java-based image processing application with capabilities for histogram equalization, noise reduction, edge detection, bitwise operations, and convolution operations among many others. I used Java Swing to provide an intuitive UI.

Black-Litterman Portfolio Optimization (<https://github.com/tomg223/portfolio-optimization/blob/main/lab.pdf>)

Feb 2024

- Developed a Python-based financial analytics program that processed stock data and financial news sentiment to optimize investment portfolios, utilizing yfinance, pandas, NumPy, and scikit-learn for data processing and analysis

French Conjugator

Feb 2023

Used: Flask, ReactJS, PostgreSQL, Python

- Led backend development of French verb conjugation web app, architecting PostgreSQL database schema and implementing RESTful API endpoints using Flask and Python. Built responsive React frontend featuring real-time verb conjugation, search functionality, and intuitive UI/UX
- Won beginner prize at DevFest 2023 Hackathon

SkateSpotter

April 2023

Used: Flask, PostgreSQL, Werkzeug, Python

- Users could discover skate-boarding spots near them, view and post historical records of tricks done at skate spots by famous skaters, and host events at registered real-world spots

Python Command-line Chat App

March 2023

- Developed python cmd-line program using UDP sockets and multithreading to facilitate real-time communication as well as an inbox feature for offline clients
- Implemented logic for GBN protocol for reliable data transmission, using custom packet headers, SYN's, and ACK's. Utilized the Bellman-Ford algorithm to dynamically probe and discover optimal routes in the network, ensuring fast and reliable transmission.

ACTIVITIES

Communications Lead/ Web Developer, Columbia AI Alignment Club

Manhattan, NY

www.cualignment.org

Nov 2024–Present

- Manage both internal (100+ members) and external communication for events, outreach, and weekly meetings
- Grew club from team of 3 to 100+ members and 16+ admin, securing 30,000\$ in funding from Open Philanthropy
- Independently develop, design, and currently maintain the club's web platform using React, Next.js, MongoDB.

Emerging Scholars Program

Manhattan, NY

Columbia University

Jan 2022–May 2022

SKILLS + ADDITIONAL INFO

Software Tools: Proficient in several programming languages (Python, JavaScript, C...), modern web frameworks (Angular, ReactJS, NextJS...), data analysis with Google Colab and Excel, Photoshop

Database Management: Experience with database systems (MongoDB, PostgreSQL, Firebase), SQL query optimization, data modeling

Project Management: Team collaboration, timeline tracking, documentation, strong written and oral communication, progress reporting

Tools: Git, Notion, BitBucket, Jira, Microsoft Office Suite, version control systems, collaborative development environments