

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.
- Presented technical recommendations and solution options to non-technical specifications, supervisors, and clients.

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 a 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

- Partner with PwC PTM Consultant and Google SWE to build a 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 which I developed using ReactJS/Typescript, 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, SYNs, and ACKs. 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

Columbia University

Manhattan, NY

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, Figma

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