

KARTIKEYA PANT

321 Johnston Dr, Watchung NJ 07069 | 908-900-2830 | kartikeyapant2009@gmail.com

EDUCATION

- Rising Senior - Watchung Hills Regional High School
- Unweighted GPA: 3.7/4.0
- May 2026 SAT score: 1530

PROJECTS

Loaded Dice - 2D Hack and Slash Game

- Developed a 2D game using Unity and C# called Loaded Dice
- Contributed to game via programming mechanics through Visual Studios:
 - Developed enemy AI as well pathfinding towards player character.
 - Designed and programmed player character abilities, the Pierce and Dash (Pierce was a giant, piercing slash that hit multiple enemies, and Dash was a short range dodge that made you invulnerable)
 - Programmed enemy spawn mechanics (how often they spawned, where, and faster spawning over time)
- Collaborated alongside two other peers via Github
- Iteratively improved the game based on user feedback and testing

SPH Fluid Simulator – 2D Interactive Engine

- Developed a 2D hydrodynamics physics simulator in JavaScript (ES6+) using HTML 5 Canvas / WebGL to solve real-time incompressible fluid flow
- Implemented Smoothed-Particle-Hydrodynamics (SPH) mechanics using Poly6 and Spiky kernel family equations for accurate density and pressure gradient calculations
- Optimized web performance for high particle counts
 - Built a spatial hashing uniform grid to achieve $O(N)$ average-case neighbor queries

EXTRA CURRICULAR/ATHLETIC ACTIVITIES

Computer Science Club

President | 2026 – Present

- Lead organization operations, curriculum development, and technical workshops for club members

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- Designed and hosted a comprehensive **Game Design Workshop** during HillsHacks 2026, teaching Unity Universal 2D, foundational game mechanics, and C# scripting.
- Currently designing the club's official website using HTML, CSS, JavaScript, and Node.js. Hosted on Vercel and utilizing Supabase + Firebase NoSQL databases to centralize announcements, resources, and project showcases.

Economics and Finance Club

Head of Digital Operations | 2025 – Present

- Managed digital infrastructure and web presence to expand club outreach and student engagement
- Developed + deployed “The Economic Forum” website (theeconomicforum.net), serving as a digital hub for club publications, announcements, and student debates.
- Facilitated bi-weekly club debates and macro-economic discussions on global market trends and fiscal policy.

SUMMER PROGRAMS 2025

Fordham University Gabelli School of Business - Wall Street in the classroom New York, New York

- Learnt finance fundamentals over the course of the program such as:
- Personal Finance: Savings, Investing, and Debt Management.
- Investments and Analysis: Stocks, Bonds, and Monetary Policy.
- Alternative Investments: Hedge Fund Private Equity Industries.
- Investment and Risk Management: Asset Management/Asset Allocation and Risk Management Theory.
- Cryptocurrency

New York University Steinhardt – Coding for Game Design New York

- Learned core coding concepts, including variables, loops, conditionals, functions, and event-based programming.
- Designed engaging game mechanics, player controls, challenges, objectives, and reward systems.
- Developed and tested functional game prototypes by turning creative ideas into interactive experiences.
- Strengthened debugging and problem-solving skills by identifying errors and improving game performance.
- Improved teamwork, communication, and presentation skills through collaboration, feedback, and project demonstrations.

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EXPERIENCE

Acme Markets New Providence NJ

Cashier July 2025 – January 2026

As a Cashier at Acme, I provided friendly customer service, processed cash and card transactions accurately, and assisted customers with questions. I maintained an organized checkout area, bagged groceries carefully, and helped keep lines moving efficiently. I also followed store procedures and worked with team members to create a positive shopping experience.

Code Ninjas Greenbrook, NJ

Coding Instructor February 2025 – June 2025

As a Coding Instructor at Code Ninjas in Green Brook, NJ, I leveraged my coding skills to create a safe and positive learning environment while helping students develop programming abilities tailored to their individual skill levels. I assessed new students' coding foundations, provided detailed technical feedback to parents, and tracked students' weekly progress in coding concepts and project development.