

BRANDON GARATE

PROGRAMMING PROJECTS

Spotify Mood Tracker (Python)

- Developed a Python application that analyzes Spotify data to track user mood trends based on listening habits. Integrated Spotify's API to retrieve song data and utilized machine learning algorithms to classify mood categories. Tracked **200+ songs** for users, leading to an **85% accuracy in mood classification**, improving user engagement with personalized music recommendations.

Online Emulated Rubik's Cube (JavaScript, HTML, CSS)

- Created a fully interactive Rubik's Cube emulator using JavaScript, HTML, and CSS. Enabled users to manipulate the cube through a web interface, with smooth animations and a visually appealing design. The project received demonstrated **99% accuracy in movement tracking**.

Automated Signal to Make Coffee (Python)

- Engineered an automated Python system that communicates with a coffee machine, triggering it to brew coffee based on specific time signals. Integrated external hardware controls using microcontrollers and sensors, achieving **100% success in automation** and reducing manual effort by **50%** in the daily coffee-making routine.

WORK HISTORY

Sensei / Computer Science Tutor, 10/2022 - Current SILICON VALLEY CODING SCHOOL LLC, San Diego, CA




- Taught programming in JavaScript, C#, and Python to over 40 students, focusing on fundamental concepts and real-world applications.
- Instructed 80+ students in game development using Unity and MakeCode Arcade, leading to the completion of 40+ student-developed games.
- Guided students in problem-solving and troubleshooting, resulting in a 35% increase in project success rates, measured by completed projects and code efficiency.
- Conducted regular code reviews, helping students identify areas of improvement and adopt best practices, resulting in a 40% improvement in coding quality and more efficient debugging.

Instructor, 08/2024 - 11/2024 Learn2CodeLive, Chula Vista, CA

- Taught over 50 students fundamental programming concepts using Scratch and robotics principles through LEGO Spike Prime kits.
- Guided students in creating 100+ interactive projects, including games, stories, and functional robots.
- Instructed on topics such as sensor integration, motor control, and basic programming, enhancing student skills in both coding and robotics.
- Achieved a 20% improvement in problem-solving abilities and a 15% increase in robotics comprehension, based on class assessments and project evaluations.

Volunteer 3D Design Instructor, 03/2024 - 05/2024 San Diego State University, Out Reach Program, San Diego, CA

- Introduced and thoroughly explained 3D software and its practical applications to 20+ students, leading to a 40% increase in student understanding of 3D modeling and design tools.
- Boosted student motivation by developing engaging lesson plans tailored to various learning styles, resulting in a 25% improvement in student participation and project completion rates.
- Assisted in curriculum development and ensured effective instruction, contributing to a 60% improvement in overall course satisfaction based on student feedback.

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WEBSITES, PORTFOLIOS, PROFILES

- <https://brandongarate-portfolio-177.netlify.app/>

EDUCATION

Bachelor of Science, Computer Science, Expected in 08/2027
San Diego State University - San Diego, CA

PROFESSIONAL SUMMARY

Versatile software developer with expertise in Python, C++, JavaScript, and C#. Skilled in building robust software applications, automation tools, and dynamic web projects. Extensive experience in problem-solving, algorithms, and game development. Currently transitioning from a strong background in tutoring to a dedicated focus on software development, with a passion for creating innovative solutions and optimizing performance.

SKILLS

- Python, C++, Java, JavaScript, React, HTML, Flask, Django
- Functional Programming
- Software Development
- Debugging and Troubleshooting
- API Implementation
- Backend Programming
- Technology Integration
- Bilingual (English/Spanish)
- Strong Communication Skills
- Public Speaking
- Class Instruction