# **Charlie Wang**

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### **Education**

### University of Pennsylvania, School of Engineering & Applied Science

Philadelphia, PA

B.S.E. in Digital Media Design

May 2028

- → Relevant coursework: Data Structures & Algorithms, Programming Languages & Techniques, Discrete Mathematics, Mixed Media Animation.
- → GPA: 3.93/4.00
- → Activities: UPenn Game Research and Development Environment (UPGRADE) Club

# **Technical Projects**

#### **Miner Destruction of Property**

2023-2025

Unity, C#, Pixel Art

- → Led a team of 3 people in creating a 2D action-adventure RPG with a 2 hour long main campaign.
- → Programmed 4 replayable bosses with complex movesets and abilities.
- → Designed an ability system with weapon swapping and 8 different active items.
- → Created a large portion of the 2D art assets and animations.

#### **Shooting Range Game + Basics Graphics Engine**

2024

Java Swing

- → Created a 3D rendering engine from scratch using the Java 2D Library.
- → Engineered basic hit-scan mechanics/hitboxes.

Other Mini Games 2024-2025

Unity, C#

- → Developed a series of smaller games in a team of four for UPGRADE.
- → Descent: designed realistic snowboard movement for a relaxing snowboarding game.
- → Rordon Gamsay: programmed enemy movement and attacks for a 2D platformer cooking game.
- → The Sky of the Sky: worked on storytelling, fishing gameplay, and final cutscene.

# **Game Design Projects**

# **Game Design Research**

2023

- → Self-directed research expanding on a high school essay about racial stereotypes in 20th century board games.
- → Published by the Journal of Student Research (2023).
- → ISSN: 2167-1997 (link)

# Tandus D&D Module & Campaign

2024-2025

- → Wrote and designed an expanded power and progression system for Dungeons & Dragons 5e.
- → New system encouraging role-play and expression of character motivation.
- → 120+ new character abilities built on D&D 5e.
- → 70+ gameplay sessions using & testing Tandus Module.
- → Currently working on publishing.

# **Technical Skills & Interests**

Tech: Java, C#, Python, OCaml, Python, HTML/CSS

Software & Tools: Unity, Adobe CC (Premiere Pro, After Effects, Photoshop), Git

Interests: Playing games, making games, Dungeons & Dragons, lifting, manga.