Riley Hanzhang Niu

https://github.com/rileyniu
hn263@cornell.edu | 602-262-6927
911 E. State St #734, Ithaca, NY

Objective

- An internship or research opportunity in software engineering , computer graphics, or game design fields

Education

Cornell University, College of Engineering Ithaca, NY
Bachelor of Science in Computer Science, Minor in Math; GPA: 3.65/4.0 *Expected May 2020*

Relevant Coursework: Algorithm Design, Discrete Structures, Linear Algebra, Statistics, Functional Programming, OO Programming & Data Structures, Computer System Organization, Introduction to Computer Vision, Computer Game Architecture, Web Programming & Data Visualization, Intoduction to C++

North High School Phoenix, AZ
Top 5% of Graduating Class *May, 2016*

Skills

- **Languages**: Java, C/C++, C#, Python, HLSL, OCaml, Haskell, JavaScript, PHP, HTML, CSS, Swift 3
- **Tool & Libraries**: Unity, OpenGL, MySQL, Linux, Git, SVN

Experience

NetEase Games Hangzhou, China
Game Engine Intern (Engineering Co-op Program) *June 2018 - December 2018*

- **Revelation**: an upcoming MMORPG mobile game powered by Unity3D
  - Worked on data pipeline, scene management, and custom tool development to optimize game quality using C# scripting in Unity
  - Collaborated with artists to research, create and optimize graphics shaders and relevant rendering techniques for stylistic and photorealistic asset production, including character, environment, lighting, and PBR material creation
  - Researched and implemented a non-photorealistic image filtering functionality for the camera feature in the game
  - Created a Hausdorff-based mesh-reduction tool for asset LOD optimization

Projects

- **Volumetric Cloud Simulation**: A real-time volumetric cloud rendering solution for Unity mobile projects, using auto-generated meshes, perlin noise textures and custom lighting calculations
- **Embarkment**: A 2D desktop game project combining two-stick shooter and tower defense gameplay based on LibGDX and Java
  - Worked as the lead programmer for game physics, AI implementation and asset integration
- **Big Red Mecha**: A Unity virtual reality tower defense game project based on real-time views in Cornell campus
- **Man in the Shadow**: A 2D desktop puzzle game as a Hackthon project developed using Unity and C#
- **Website for Local Business**: A commercial website for local business with admin system, developed with MySQL database, interactive PHP and JavaScript functionalities as a group project
- **E-Pin**: An electronic prototype developed in Cornell Make-a-thon to solve child lost problem; the prototype uses Arduino board with Infrared Receiver Sensor to keep track of distance, which is synced with a mobile app for control

Activities

- Cornell Creative Computing Club
- Placed 5/20 in Cornell Hackathon with rapid prototyping
- The Scientista Foundation for Women in STEM