

# Peter Francis

rockretep.net

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Troy, NY, United States

## SKILLS AND EXPERTISE

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- **Programming Languages**

- +  $\gtrsim$  6 years experience:  
Bash, C#, Java, JavaScript, Lisp(s), Lua, Python
- +  $\lesssim$  6 years experience:  
C, C++, Go

- **Game Development**

- + Gameplay, UI, and AI scripting
- + Tools and engine development
- + Game design concepts, design documents
- + Rendering and shaders (Cg/HLSL/GLSL/Vulkan)
- + Unity (C#, scripting, shaders)
- + Unreal Engine (C++, blueprints, materials)
- + Godot (GDScript, C#, scripting, shaders)

- **Software Development & Production**

- + Agile, Scrum, JIRA
- + Version control (Git, Perforce)

- **Artificial Intelligence & Computing**

- + Formal logic, automata theory
- + Agent scripting, steering, path-finding
- + Bayesian networks, behavior trees, blackboard systems, decision trees, heuristics, ML techniques, neural networks, state machines

- **Server Administration**

- + Unix/POSIX, databases, web and game servers

- **Digital Content Creation**

- + Web design (HTML, CSS, SCSS), Blender, L<sup>A</sup>T<sub>E</sub>X

## PROFESSIONAL EXPERIENCE

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- **Game Programmer — *Rift Rally***

- Velan Studios, riftrally.com | May 2021 - August 2023*
- + Scripted and debugged various UI and gameplay systems (VScript, C)
  - + Researched and developed a custom tool to calibrate in-game virtual camera and RC car camera (Python)
  - + Developed shader to un-distort video feed and mask out RC car (C, GLSL/Vulkan)
  - + Developed tool to analyze and optimize physical gate design used as markers for computer vision (Python)
  - + Designed and developed frontend UI and backend system for managing connections to RC car (VScript, C)

- **Game Programmer — *OddestSea***

- oddestsea.com | June 2018 - April 2020*
- + Created game code, visuals, design, documentation (C#, Cg/HLSL/GLSL, Unity)
  - + Researched and developed solutions for complex tasks, such as a water shader and buoyancy system
  - + Authored original design and formed team

- **Undergraduate Instructor — Intro to AI;**

- Intro to Game Development**

- Indiana University, CSCI B351; CSCI B453 |  
August 2018 - May 2019; January - May 2020*
- + Created and coordinated course structure, assignments, and documentation

- **Game Programmer — *The Astro Parcel Service***

- vixensludum.com | May 2019 - April 2020*
- + Developed behavior of game's NPC enemy (C#, Unity)

- **Custom OCR Tool Development Consultant**

- Indiana University, Media School Development Project |  
May - August 2019*
- + Developed tool to parse and record data from a game for use in a game statistics and analysis class (JavaScript, tesseract.js)

- **Game Development Camp Instructor**

- Indiana University, Media School Game Camp | Summer  
2017, 2018, 2019*
- + Managed 30+ students in week long camps
  - + Instructed and assisted students studying game development (Unity, UE4, Construct, Godot)

- **UI Development Consultant**

- Indiana University, SICE Research / Development Project |  
May - August 2018*
- + Contracted to develop a user interface for a game research / development project (C#, Unity)

## EDUCATION

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- **B.A. Computer Science & B.S. Game Design**

- Indiana University, Bloomington, IN |  
August 2016 - August 2020*
- + Concentration in Artificial Intelligence

## PERSONAL AND VOLUNTEER EXPERIENCE

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- **Gamedev@IU - Officer**

- gdiv.org, May 2018 - May 2019*
- + Assisted student-led game development club

- **Personal Game Development & Programming projects**

*2011 - Present*

## HONORS AND AWARDS

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- **IU Founder's Scholar**

*2017 - 2020*

- **IU College of Arts and Sciences Dean's List**

*2016 - 2020*

- **Eagle Scout & Order of the Arrow**

*BSA Troop 100, 2008 - 2015*