Tomas Stegemann

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Education

Bachelor of Computer Science, expected May 2024
College of Science and Engineering, University of Minnesota-Twin Cities, Minneapolis, MN
Minor in Interdisciplinary Design

Notable Coursework

- Operating Systems, Machine Architecture (Spring 2023)
- Algorithms and Data Structures, Formal Languages and Automata Theory (Fall 2022)
- Software Design and Development (Fall 2022)
- Functional Programming, Linear Algebra (Spring 2022)
- Intro Machine Architecture, Discrete Mathematics (Fall 2021)

Work Experience

Undergraduate Teaching Assistant, Introduction to Data Structures and Algorithms (Fall 2022)

- Oversaw labs and projects, guided students and assessed their performance
- Held office hours, helped students with coursework and other challenges

Prep and Line Cook, Northside Grill (Summer 2021)

- Handled myriad kitchen responsibilities on-demand, as directed by the head cook
- Primarily responsible for preparing ingredients and cooking on the line

Software Development Intern, Advaita Bioinformatics Corporation (Summer 2019)

- Worked on genetic pathway analysis features for Advaita's iPathwayGuide software using Java, JavaScript, Python, R, and PostgreSQL
- Performed collaborative software development tasks under AdvaitaBio's lead software developer
- Made use of software development tools and processes such as version control with Bitbucket (Git) and issue tracking with Jira

Leadership and Activities

- Officer (Programming Mentor), University of Minnesota Video Game Development Club (Fall 2022, Spring 2023)
- Student Researcher at Interactive Visualization Lab at University of Minnesota (Spring 2023)

Skills

Programs and Tools

- Unity (2D, 3D), Unreal Engine 4, OpenGL, Blender
- Visual Studio, RenderDoc, CMake, XCode
- Git (GitHub, Bitbucket, command line), Jira, Trello

Programming Languages

- Most Used: C, C#, Python
- Past Experience: C++, Java, OCaml, Swift, JavaScript, R, PostgreSQL, GLSL

Recent Projects

- Catalogue and Devil Queller (2022, Unity 2D/3D and C#) - Math-driven animation, FSM-driven behaviour and input handling, composition and class hierarchy design, 2D and 3D action combat, Unity CG shaders, triangulation and spatial partitioning for navigation
- Various Engine-Level Programming (Present, C/C++, Swift) - OpenGL, Metal, Vulkan, ECS architecture, core techniques
- Graphics and Algorithms Projects (Present, C) - Polygon rasterization renderer, NFA-based regex matcher, BMP image processing library with examples of image processing algorithms
- Interactive Visualization Lab Research (Present, Unity 3D and C#) - Unity CG Shaders and Compute Shaders, 3D modeling/animation, Browser-driven interactions in 3D virtual environment