BASSAM KAMAL

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OBJECTIVE: Third-year Computer Science student passionate about full-stack development, systems design, and AI/ML applications. Seeking a tech internship to leverage expertise in algorithm optimization, procedural generation, and scalable software solutions.

EDUCATION

Bachelor of Science in Computer Science with a specialization in Video Games   Sept 2022 - Present

University of Prince Edward Island Charlottetown, PE   **GPA:** 3.8

Relevant Coursework: Algorithms, Data Structures, Linear Algebra, Computer Graphics

TECHNICAL SKILLS

- **Languages:** C++, Java, Javascript, GLSL, C#, SQL, C, Python
- **Frameworks & Libraries:** OpenGL, PyTorch, TensorFlow Lite, Assimp, React
- **Concepts:** Procedural Algorithms, Memory Optimization, Localization Systems, OOP, REST APIs

PROJECTS

Volpe Engine | repo | C++, OpenGL

- Lightweight custom game engine leveraging dynamic trees for spatial partitioning & frustum culling.
- Real-time optimized physically based lighting solution only affecting regional nodes.
- **Transferable Skills:** System Architecture, Memory management, Algorithmic optimization

Custom Text Renderer | repo | C++, OpenGL

- Implemented dynamic word-wrapping, hyphenation, and localization, utilizing dynamic scaling through array textures and batch rendering for efficient GPU use. 60fps+ for 10k+ characters.

Procedural Cityscape Generator | repo | C++, OpenGL

- Created customized Voronoi generation algorithm for procedurally split polygons.
- Optimized rendering using texture array techniques, minimizing draw calls and increasing performance by 200%.

WORK EXPERIENCE

Teaching Assistant

University of Prince Edward Island, Prince Edward Island, Canada   Jan 2025 - Present

- Clarifying course material, debugging code, and guiding students through programming challenges.
- Assisting students' conceptual understanding in CS and Math-related subjects.

Campus Events Coordinator

UofCanada Campus, New Administrative Capital, Egypt   Jan 2023 - July 2024

- Led tech workshops on Git and Python, increasing student participation by 20%.
- Automated event scheduling with Python scripts, reducing manual workload by 10 hours/week.

Languages: Fluent in English and Arabic   Github and project demos available on website