Tessa Power

Computer Graphics Engineer

Austin Metro Area, TX
(512) 949-7235
hello@tessapower.xyz

Portfolio: github.com/tessapower
LinkedIn: linkedin.com/in/tessa-power
Website: www.tessapower.xyz

Passionately creating things from scratch, just to see if I can. Track record of building complete custom rendering systems and optimizing graphics pipelines performance with elegant techniques and algorithms.

— CORE COMPETENCIES

- **Software Engineering:** 2D/3D graphics programming, real-time rendering, computer vision, systems architecture, performance optimization, fullstack native and web dev, API dev, cross-platform dev
- **Technologies and Tools:**
  - **Languages:** C, C++ (14-23), C#, JavaScript/TypeScript, Python, SQL, Java, GDScript, Golang
  - **Graphics:** Unity game engine, Godot game engine, DirectX 11/12, OpenGL, WebGL, custom ray tracing, GLSL/HLSL shaders, OpenCV, PIX, RenderDoc
  - **Platforms, Frameworks, Software:** Windows (Win32), Linux, Web, iOS, CMake, ImGUI, GTest, Valgrind
- **Quality Assurance:** Automated regression testing frameworks, Behavior-Driven Development (BDD), Test-Driven Development (TDD)
- **Product/Project Management:** Technical roadmap planning, stakeholder collaboration, sprint planning, backlog grooming and prioritization, product strategy development
- **Soft Skills:** Technical/remote-first communication, distributed/global team collaboration, strategic thinking, process improvement, technical documentation, problem analysis, cross-team collaboration

— EXPERIENCE

Software Engineer: Shuttlerock Ltd (May 2021 – Jan 2022)

- Developed fullstack web app features in TypeScript/React and Ruby for creative teams in 15+ countries.
- Implemented markdown editor for video frame annotations, enabling clients to format and add clarity to feedback which streamlined async communication between clients and creatives across timezones.
- Pioneered automated BDD regression suite with QA, reducing overall deployment lead times by 91.67%.

Developer Intern: Tatou Technologies Ltd (Jun 2020 – Dec 2020)

- Introduced performance monitoring in React Native/Firebase tablet-based apps, streamlining developer's optimization efforts to reduce app loading times for customers in low-connectivity areas.
- Decreased customer support tickets by 60% by improving app responsiveness for underserved users.

Product Owner: YR Live Ltd (Oct 2019 – Mar 2020)

- Defined product roadmap and technical architecture for large-scale online-store platform integration.
- Lead company-wide workshops on Scrum practices and Agile methodologies, enhancing working relationships between project management team and dev team by increasing transparent communication.

Frontend Developer: Sparkly Box Ltd (Sep 2018 – Oct 2019)

- Developed the company website built with React.js, JavaScript, and Gatsby.

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- Managed monthly automated deployments of three iOS apps to App Store, with 100% release uptime.
- Streamlined CI/CD pipeline and reduced manual errors by integrating scripted release management.

Mechatronics Developer Intern: CENIT Ag (Oct 2017 – Oct 2018)

- Developed frontend features in C# for FastSuite Edition 2, an industry-leading enterprise application for offline programming, simulation, and commissioning of industrial robotics/automated production lines.

— PROJECTS

- Hydraulic Erosion Simulation: Real-time, physics-based, interactive 3D hydraulic erosion simulation.
- Video Stabilizer: C++, Win32, SIFT feature detection, RANSAC algorithm, advanced matrix operations.
- 3D Procedural Terrain: C++, procedural generation, real-time mesh editing, custom GLSL shaders.
- Custom Shader Playground: TypeScript/Three.js, hot-reload and locally-hosted WebGL shader creation.
- Custom 2D Game Engine: 2D game engine built in Java based on Entity-Component System architecture.

— TECHNICAL WRITING

- Creating Realistic Terrain by Modelling the Physics of Hydraulic Erosion: An intuitive guide to the math and theory behind my hydraulic erosion simulation project.
- Repurposing C++ Iterators as Geometric Generators: A novel application of C++ generators as geometric iterators, and how they were used to elegantly and efficiently solve a computer vision problem.

— EDUCATION / CERTIFICATIONS

- Bachelor of Science in Computer Science, Victoria University of Wellington (2020-2024)
  GPA: 3.6 / 4.0
- C++ Institute: Certified C++ Programmer (2025)
- Scrum Alliance: Scrum Certified Product Owner (2020)
- International Software Testing Qualifications Board (ISTQB): Certified Software Tester (2019)