Rachel Micolichek

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Senior Technical Engineer & Game Developer

Versatile technical engineer utilizing 8+ years of software expertise to drive innovation in game development, combining advanced programming skills with a proven track record in customer-centric solutions.

Developer with a unique blend of industry experience and cutting-edge game programming skills. Brings a strong foundation in software testing, troubleshooting, and customer experience to the realm of game development. Recently completed the IndieCade Game Design Internship, showcasing ability to conceptualize and develop a full game project using Unity and Blender. Developed a custom game engine, demonstrating advanced capabilities in graphics programming and low-level systems. Excels in leading cross-functional teams, optimizing performance, and solving complex technical challenges. Proven track record of navigating and fixing undocumented or legacy systems. Committed to leveraging this multifaceted background to create immersive, innovative, and technically sound gaming experiences.

Technical Skills

- **Programming Languages:** C/C++, C#, Python
- **Game Development:** Custom Game Engine Development, Unity, Blender, DirectX, OpenGL
- **Web Development:** HTML, CSS, Markdown
- **Database & Cloud:** SQL, SSMS, AWS
- **Version Control:** Git, Perforce, UVCS

Development Experience

The C.L.E.A.R. F.A.C.T.O.R.Y. Game — June 2024 to August 2024

Served as the sole developer for the first-person recycling simulation game "The C.L.E.A.R. F.A.C.T.O.R.Y."

- Utilized Unity and C# to implement core game mechanics, including a resource management system, an efficient save/load system, menu UI, and player progression
- Overcame various technical challenges including maintaining existing player resources seamlessly between scenes to ensure accuracy of inventory and implementing NavMesh to designate a navigable area with obstacles for the 10+ NPCs to traverse without sticking
- Integrated Blender-created 3D models seamlessly into the Unity environment including active animations
- Collaborated with designers to ensure cohesive implementation of game assets and mechanics
- Participated in all stages of game development from concept to prototype to final product
- Developed as part of the IndieCade Game Design Internship earning a certificate of completion and ranking 10th in the 2024 IndieCade Climate Jam

Omega Race Game — January 2024 to May 2024

Developed and refactored a modified "Omega Race" game utilizing a client-server networking architecture that included a custom debugging tool

- Implemented simple and complex de/serialization for various data types
- Created TCP and UDP client-server applications, including handling simulated network issues like packet loss and latency
- Integrated a data-driven message queue, game state synchronization, and input/output queues
- Developed record and playback tool for more efficient debugging
- Utilized player prediction and dead reckoning algorithms for smoother gameplay

Custom 2D/3D Game Engine — September 2021 to January 2024

Designed core engine architecture and management systems in C++ including graphic and audio features

- Implemented game objects, shaders, textures, models, and meshes
- Integrated MIP mapping, anisotropic filtering, lighting, fog, and reflections
- Supported model skinning and animation
- Incorporated sound functionality such as volume, panning, and pitch control
- Created custom math, file, and parent-child-sibling tree libraries to expand functionality and increase efficiency compared to built-in libraries
- Created a priority system and asynchronous file loading for improved control and performance resulting in a 10% decrease in overall load time
- Utilized design patterns to increase optimization and improve stability of the game engine

Dots and Boxes Game **September 2022 to November 2022**

Utilized Python to create a modified "Dots and Boxes" game with an AI opponent and a dynamic difficulty system

- Implemented an AI player using the minimax algorithm with alpha-beta pruning
- Added customizable board sizes and dynamic difficulty based on the ply count to increase replayability
- Tested various uniformed and heuristic search strategies to create a challenging AI opponent

Professional Experience

Cyara, Inc., Remote **September 2022 to Present**
Technical Support Manager

Led a global team of 8 support engineers, setting and achieving strategic goals to enhance customer satisfaction and operational efficiency. Implemented innovative support channels, managed high-level escalations, and contributed to product development from a customer experience perspective. Regularly reported on team performance to executive leadership and board members.

- Drove significant improvements in key performance metrics through strategic process enhancements:
  - Reduced SLA response time from 1 hour to 30 minutes, with 99% of cases responded to within 10 minutes, by implementing automatic round-robin ticket assignment and an alert system.
  - Decreased ticket defect backlog by 15% through removal of outdated and duplicate tickets, establishing clear prevention processes, and initiating bi-weekly cadence calls with product owners
  - Reduced median full resolution time from 1 hour to 24 minutes by improving first response time and implementing structured ticket handling procedures
  - Increased CSAT from 93% to 98% as a result of these improvements and the launch of a new live chat support channel
- Automated weekly reporting process through custom scripting, eliminating approximately 2 hours of manual work per week and improving data accuracy
- Designed and implemented a new Live Chat support channel through a strategic 3-phase plan, enhancing customer satisfaction and support accessibility
- Resolved intra-team conflicts, fostering a positive company culture and improving team dynamics
- Specifically requested to contribute expertise to product UI redesign, serving as the key representative for customer experience perspective due to extensive knowledge of user needs and pain points

Senior Support Engineer & Team Lead **September 2019 to September 2022**

Led high-level technical support for premium customers, managing escalations and optimizing support processes. Developed and implemented strategic improvements to enhance team efficiency and cross-departmental collaboration. Provided mentorship and training to new team members, ensuring consistent quality in customer service.

- Served as primary technical contact for high-value customers with annual recurring revenue of $1-3M
- Designed and implemented a tiered support model, streamlining escalation processes and clarifying team responsibilities
- Optimized ticket handling through process improvements and integration of third-party tools
- Established cross-functional communication channels, improving collaboration with NOC, Telecom, Engineering, Professional Services, and Customer Success teams
- Led training initiatives for all new hires, covering Cyara products, support processes, and methodologies

Professional Services Engineer **April 2016 to September 2019**

Served as a Cyara solutions expert, responsible for installation, configuration, and support of Cyara products in diverse environments. Provided technical expertise, mentored team members, and acted as a key resource for both internal teams and external customers. Drove customer engagement and product adoption while developing custom solutions and establishing best practices.

- Personally requested by client to lead a 6-month test execution project for a Fortune 500 company's two new data center launches, overseeing project management, QA planning, execution, and reporting
- Led execution of largest cloud-based performance tests, establishing benchmarks and ensuring significant customer ROI
- Developed comprehensive best practices documentation, widely adopted across multiple company departments
- Created custom Cyara products tailored to specific customer needs, boosting customer loyalty and satisfaction

Education

Master of Science in Game Programming DePaul University

Bachelor of Science in Computer Engineering Technology DeVry University