Yathirajan Manavalan

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Professional Summary

A software developer with 8+ years of experience building performant and robust web applications with insight into the loyalty and finance industries. Vim and Dvorak user and a lifelong learner.

- Ruby on Rails, Typescript, Python, React, EmberJS
- Enthusiastic about functional programming paradigms and dabbled with Haskell, Elixir and Elm
- Strong knowledge of OO principles and design patterns
- Extensive troubleshooting and debugging skills
- Excellent mentorship and leadership skills

Experience

2016–Present   **Senior Full Stack Developer**, RewardOps, Toronto, ON.

- Architected and implemented most of the Reward management system used by program managers at RewardOps and its clients
- Implemented a filter string parser as a standalone JS library. This library is capable of recursively parsing filter definitions with different combinations of conditions and it also has methods to update the filter strings. These filter strings are used throughout the system for different rules, such as: pricing, item permissions and item promotions
- Was part of various program launches including Aeroplan, Airmiles and US Bank Rewards and implemented an asynchronous event driven order placement flow which considerably sped up the order creation speeds and API response times.
- Rearchitected and improved the order refund and cancellation system using event-sourcing techniques
- Refactored and implemented the supplier fulfillment flow
- Built third party integrations with many of RewardOps's clients and suppliers
- Optimized the memory efficiency of the reporting system which drastically reduced the memory load on the servers
- Took charge in conducting lunch and learns and improving documentation
- Onboarded and trained most of the current frontend team

Technologies Used: Ruby on Rails, Rspec, Minitest, PostgreSQL, Javascript, Typescript, React, EmberJS, Git

2010–2013   **Java Developer**, Tata Consultancy Services, Chennai.

- Built the MoneyGram-PayPal integration
- Was part of a major technology platform upgrade within MoneyGram
- Interacted with various clients and guided them through the upgrade process

Technologies Used: Java, Javascript, jQuery, SVN

Education

2013–2015	**Master of Science, Computing Science**, *University of Alberta*, Edmonton.
2006–2010	**Bachelor of Engineering, Electronics and Communication Engineering**, *Anna University*, Chennai.

Masters Thesis

Title	*A Light-weight AI emotion model for NPCs in a video game*
Supervisors	Professor Vadim Bulitko
Description	This thesis explored the idea that basing NPC actions on a simulated emotion model based on fear, greed, happiness and sorrow would lead to more organic NPC reactions to player actions in a video game.

Interests

Photography	https://500px.com/p/thunderemperor
Video Games	Mainly DotA and Guild Wars. Currently playing AOE4
Vim	Love tinkering with it and trying to get better.

Publications

[1] Yathirajan Manavalan, Vadim Bulitko, and Marcia Spetch. A lightweight algorithm for procedural generation of emotionally affected behavior and appearance. *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment*, 11:142–148, Jun. 2021.

[2] Yathirajan Brammadesam Manavalan and Vadim Bulitko. Appraisal of emotions from resources. In *Interactive Storytelling*, pages 224–227. Springer International Publishing, 2014.