Richard Wu

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SKILLS

PROGRAMMING

Languages:
Ruby • C++ • C • SQL • Python • JavaScript • HTML/CSS • Java • Shell (Bash)

Frameworks and technologies:
Rails • Redis • Node.js • NGINX • GNU/Linux • Swagger

Tools:
Git • Vim • tmux

EDUCATION

UNIVERSITY OF WATERLOO

BCS in Honours Computer Science
Expected May 2020 | Waterloo, ON
mGPA: 93%
- President's Scholarship of Distinction
- Software Engineering Entrance Scholarship

COURSEWORK

UNDERGRADUATE

Programming Principles in C
Data Abstraction/Implementation in C++

ONLINE

Data Structures and Algorithms (Coursera)
Machine Learning (Coursera)

EXPERIENCE

🛍 shopify | Developer Intern

May 2016 - August 2016 | Ottawa, ON
Backend work on the internal shipping provider API in Ruby. Full-stack work on the core Shopify platform in Rails.
- Introduced a formalized ETL framework with smaller, testable modules for polling tracking data from shipping carriers, improving maintainability
- Implemented USPS tracking information polling within the ETL framework using parallelized background jobs, decreasing upper bound of real-time tracking updates from a few hours to 15 minutes
- Integrated shipment options into our shipping microservice API with abstraction for multiple providers using a Log4j-like design pattern, enabling 200k+ merchants to purchase add-ons for their shipping labels
- Identified and eliminated a production bug involving stale cache keys that caused incorrect shipping rates to display

PROJECTS

STUDBUDS.COM | Founder + Lead Developer

June 2015 – present
University of Waterloo peer tutoring marketplace with 150+ registered students. A Velocity company. Built with Rails, Redis and Sidekiq.
- Implemented a background payment flow and with the Stripe API, enabling automatic P2P payment authorization, captures, and refunds
- Integrated live chat and notifications over WebSockets that hook into user-triggered events, such as lesson creation and cancellation
- Provisioned cron jobs to send emails for unread messages and updates
- Utilized AJAX for dynamic client-side rendering to simulate a single-page dashboard with proper JavaScript memory and reachability management
- Leveraged CloudFront and S3 for static asset caching and distribution

NEWS_SCRAPER | Ruby Gem

August 2016 - present
ETL web scraper that aggregates news articles. Written in Ruby.
- Abstracted the scraping process into an ETL framework that only extracts relevant fields from articles, such as title and content, for a given news query
- Implemented a configuration-first architecture that employs YAML-specified grep patterns to scrape news articles from multiple sources based on host domain
- Devised a command-line interface a user can use to add scrape patterns for additional host domains, simplifying the process of expanding the scraper to other news sites

ANONYMEYES.COM | Winner at Hack the North 2015

September 2015
Public video feed where users can anonymously post videos that are instantaneously uploaded and backed up. Built with Rails and AngularJS.
- Implemented a Rails server that receives MP4 metadata, such as location and time, and pushes updates to the web client via WebSockets
- Integrated a live dashboard on top of AngularJS that displays an interactive feed, along with Google Maps markers, for all incoming video streams