YAWAR RAZA

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SKILLS

- Tools: C#, Java, JavaScript, C++, Standard ML, Scala, Python, Haskell, SQL, Git, SVN, Three.js, LaTeX, Regex, Linux, Unix shell, PowerShell
- Tasks: adding features to and debugging existing code in large codebases, creating software tools, designing custom computer languages

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EDUCATION

Rochester Institute of Technology | Master of Science in Computer Science | GPA: 3.9 | August 2015 – May 2018
- Course Highlights: Aspect-Oriented Programming, Biologically-Inspired Artificial Intelligence (neural networks)

Rochester Institute of Technology | Bachelor of Science in Computer Science | GPA: 3.8 | August 2011 – May 2018
- Programs: Major in Computer Science, Double Major in Game Design and Development, Minor in Mathematics
- Course Highlights: Object-Oriented Design Patterns, Formal Methods Tools (Alloy and SPIN/PROMELA), Educational Games
- Achievements: RIT Honors Program, 2016 Winner of the Computer Science Department's "Outstanding Fifth Year Student Award"

WORK EXPERIENCE

SRC Solutions Inc., Center Valley, PA | Software Engineering Co-Op (remote) | January 2017 – June 2017
- Built a tool from scratch with Windows Presentation Foundation to backup, restore, and migrate data from and to their MySQL databases
- Designed an XML-based format to specify filtering criteria, data relationships, and transformation rules used by the above tool

McGraw-Hill Financial - S&P Capital IQ, New York, NY | Software Engineering Intern (onsite) | June 2014 – August 2014
- Used the company's in-house Haskell-like language, called Ermine, to create widgets visualizing data from a SQL Server database
- Tracked down and fixed bugs in Ermine's compiler, written in Scala, after finding and diagnosing them through my use of Ermine

B-Line Medical, Washington, DC | Software Development Intern (onsite) | September 2013 – January 2014
- Contributed to code importing and exporting the Excel XLSX and iCalendar file formats by studying the details of those formats
- Learned SQL on my own, with no prior background, in order to work on backup and restore utilities for their PostgreSQL database

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PROJECTS

Revenge of the Cyclic Cicadas | created solo | May 2024 – June 2024
- Ported a data visualization program to the web with accessible HTML, responsive CSS, and external SVG loaded into the DOM via AJAX
- Increased efficiency by precomputing the aggregated data using a C++ program, exporting a JSON file used by the visualization program

Proofs About Particular Programs (Work in Progress) | created solo | December 2023 – March 2024
- Implemented a small programming language in Coq as both an interpreter and a relation-based semantics intended for use in proofs
- Took inspiration from machine stack frames to adapt a zipper representation of continuations into a form easier to reason about

PokeNet | created on a team of 3 | March 2015 – May 2015
- Designed a normalized database schema with 13 tables and 6 views for a social network of players coordinating in-game trades
- Wrote Bash scripts to generate and execute temporary SQL scripts to populate part of the database with data from text files

Frame-by-Frame Animation Application | created solo | January 2014 – April 2015
- Created a tool to use instead of Photoshop for my 2D Animation course, with a fill tool, a color palette widget, and onion skinning
- Kept the feature set focused, such as having colors typed in as RGB, to reduce development time while also improving user productivity

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ACTIVITIES

- Won 1st place in the 2018 RIT Math Competition, and was top scorer at RIT and in the top 20% nationwide in the 2016 Putnam Competition
- Placed in the top 5% in HackerRank's Hack the Interview III coding contest in April 2020, speedily solving all 4 of its challenges
- Gave talks for the RIT Computer Science Community (CSC) that introduced attendees to functional programming and modern type systems
- Presented solutions for CSC practice exam events and wrote questions for one such mock exam about the C programming language
- Made pull requests fixing the Scala language specification and submitted a popular issue report for the open-source Atom text editor