Patrick Ribas

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Objective

Hard-working third-year Computer Science student looking for a co-op or research opportunity in the spring of 2021 and beyond.

Education

Rochester Institute of Technology

- Bachelor of Science in Computer Science, Minor in Math
- 3.87 GPA, Dean's List, Expected Graduation May 2023

Work Experience

Sustainability Research Assistant (Full Time), RIT, Summer 2020

- Worked with existing and novel mathematical models to predict methane production of anaerobic lagoons on large farms
- Used numerical and statistical methods to evaluate models, along with the uncertainties and sensitivities of their parameters
- Methods include forward Euler, Monte Carlo simulations, Latin Hypercube Sampling, and Sobol'sensitivity analysis
- Wrote Python code to evaluate models numerically, examine and parse data, and to verify statistical methods

Computer Science Tutor, Theory and Algorithms (Part Time), RIT, Fall 2020

- Instructed students in higher-level courses online
- Used pedagogical methods to break down traditionally difficult topics and help build understanding

Supplemental Instruction Leader (Part Time), RIT, January 2019 — May 2020

- Planned and hosted review sessions for students in intro Computer Science classes, assisted instruction, and submitted paperwork
- Wrote Python script to automate weekly emails to students

Skills

- **Programming Languages:** Python, C, Java, learning WebGL
- **Software Development:** Git, Unix, Agile
- **Other:** LaTeX, Research, Public Speaking

Projects

Ray/Path Tracer in C/C++

- Implemented an offline ray tracer from scratch in C/C++
- Researched and applied methods in Linear Algebra and Probability fundamental to ray tracing
- Implemented random variables for material properties, sampling for anti-aliasing, and matrix/vector transformations

Web Checkers

- Worked with a group of 5 to develop an online game of Checkers
- Supported multiple players, an AI player, and multiple simultaneous games
- Used Java, Spark, Ajax, and Git to build and maintain the project, as well as Jacoco and Maven to build, test, and document it

Courses (bold are Graduate level)

Computational Geometry	**Intro to Computer Graphics**	**Stochastic Processes**	Graph Theory
Introduction to AI	Analysis of Algorithms	Software Engineering	Number Theory

Other

- **RIT eSports:** Broadcaster/shoutcaster for DOTA 2 team, minor experience in stream production, and acclimated to a fast-paced, communication-heavy environment
- **piRIT:** member of RIT's SIAM chapter