

# Jan-Paul Vincent Ramos-Dávila

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## Education

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### Cornell University

2021 - 2025

Bachelor of Arts in Computer Science & Philosophy

## Experience

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### Carnegie Mellon University

05/2022 - Present

Research Intern

Advised by Dr. Jonathan Aldrich & Dr. Joshua Sunshine on Gradual Verification, a state of the art verifier that leverages partial specifications for scalability in specification-driven verification. Fixed optimization bugs and implemented a Property Based Testing tool for evaluating the soundness of Gradual  $C_0$ .<sup>[3][8]</sup>

### Cornell University

10/2021 - 01/2023

Undergraduate Research Assistant

Advised by Dr. Adrian Sampson in the Calyx Compiler Infrastructure for Accelerator Generators. Implemented the Graphicionado graph analytics algorithm in Calyx. Worked on a symbolic execution tool to compile Calyx parallelism to a Racket DSL equivalent.<sup>[2][4][5]</sup>

### Google

07/2021 - 08/2021

Computer Science Summer Institute

Learned programming fundamentals in JavaScript directly from Google engineers and got an inside look at Google employee tools used for web development. Developed a peer-to-peer instant messaging system with the Express.js framework and Heroku hosting.<sup>[7]</sup>

## Publications

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POPL '23 (SRC)

**Evaluating Soundness of a Gradual Verifier with Property Based Testing** 

Jan-Paul Ramos-Dávila

## Coursework Projects

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### RNAfoldml *CS 3110 Functional Programming*

An OCaml package that enables users to input both RNA sequences in FASTA format and a set of constraints to predict RNA secondary structure.<sup>[1]</sup>

## Honors

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**Travel Scholarship**, ACM SIGPLAN Conference PLDI

2022

**Finalist**, Mathematics, Regeneron International Science and Engineering Fair

2020 & 2021

## Technical Skills

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**Languages:** OCaml<sup>1</sup>, Python<sup>2</sup>, Scala<sup>3</sup>, Rust<sup>4</sup>, Racket<sup>5</sup>, Java<sup>6</sup>, JavaScript<sup>7</sup>, C<sup>8</sup>, English, Español, Italiano

**Tools:** Unix, VSCode, Git, IntelliJ IDEA, Docker, PEGjs, Neovim