Christian **Poveda-Ruiz**

PHYSICIST · COMPUTER SCIENTIST

✉ christianpoveda@protonmail.com | ⌨ christianpoveda

Education

Universidad de los Andes   *Bogotá, Colombia*
M.ENG. IN SYSTEMS AND COMPUTING ENGINEERING   *2016 - 2019*
- DISSERTATION: Bounded generics over constants in Rust

Universidad de los Andes   *Bogotá, Colombia*
B.S. IN PHYSICS   *2011 - 2016*
- DISSERTATION: A semi-analytic approach to formation processes in galaxies

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Experience

The Rust Compiler Project
CONTRIBUTOR   *October 2017 - Present*
- Added support for Integer-Pointer casts in Miri to allow pointer arithmetic.
- Implemented distinct primitives for interpreter-host communication in Miri.
- Weakened several compiler checks to expand constant evaluation support.
- Currently developing a symbolic evaluator for the compiler to verify complex constrains in generics over constants.

Fermi National Accelerator Laboratory   *Batavia, Illinois, United States*
CMS SITE SUPPORT OPERATOR   *June 2019 - November 2019*
- Responsible for monitoring all the services of the CMS distributed computing infrastructure to guarantee full coverage during the US time zone.

Universidad de los Andes   *Bogotá, Colombia*
GRADUATE ASSISTANT   *February 2018 - December 2018*
- In charge of one section and two laboratories of the undergraduate course in discrete mathematics and logic.

Rappi inc.   *Bogotá, Colombia*
DATA SCIENTIST   *June 2017 - March 2018*
- Co-designer of the A / B testing platform used on the CPGs search engine.
- Introduced human search quality rating into the Quality Assurance process for the CPGs search engine.
- Development of a predictive model to estimate the time of payment of a debt acquired by a domiciliary. Based on this, the concept of "reliable domiciliary" in operations was redefined.
- Development of a data pipeline to monitor the distribution of supply and demand in near real time.

Alianza CAOBA   *Bogotá, Colombia*
GRADUATE RESEARCH ASSISTANT   *July 2016 - August 2017*
- Development of an interactive web application to allow monitoring of the state of the public transport service in Rio de Janeiro.
- Study on traffic and mobility in order to characterize traffic accidents according to their causes in different areas of Bogotá.
- Study on taxes of urban delineation and characterization of taxpayers in order to detect anomalous declarations of constructions in Bogotá.

Publications

Quantifying and controlling biases in estimates of dark matter halo concentration   *The Astrophysical Journal, 832, 2*
C. N. POVEDA-RUIZ, J. E. FORERO-ROMERO, AND J. C. MUÑOZ-CUARTAS   *November 30, 2016*

Relevant Courses

2018	**Concurrency and Distribution**, Systems and Computing Engineering	*Uniandes*
2018	**Programming Paradigms**, Systems and Computing Engineering	*Uniandes*
2015	**Measure and Integration**, Mathematics	*Uniandes*
2015	**Computational Complexity**, Mathematics	*Uniandes*
2015	**Mathematical Logic**, Mathematics	*Uniandes*
2013	**Computational Physics**, Physics	*Uniandes*
2012	**Number Theory**, Mathematics	*Uniandes*
2012	**Discrete Mathematics**, Mathematics	*Uniandes*

Teaching

Year	Role		Institution
2019	**Teaching Assistant**, Programming Paradigms		*Uniandes*
2018	**Teaching Assistant**, Functional Programming with Applications in Scala		*Uniandes*
2018	**Professor**, Discrete Mathematics and Logic		*Uniandes*
2016	**Teaching Assistant**, Computational Methods for Physicists		*Uniandes*
2016	**Teaching Assistant**, Computational Tools for Scientists		*Uniandes*
2015	**Instructor**, Integral Calculus with Differential Equations		*Uniandes*
2015	**Teaching Assistant**, Electromagnetism II		*Uniandes*
2014	**Teaching Assistant**, Computational Methods for Physicists		*Uniandes*
2013	**Teaching Assistant**, Computational Physics		*Uniandes*
2011	**Teaching Assistant**, Algorithmics and Object Oriented Programming I		*Uniandes*

Events

Year	Event	Location
2019	**Scholarship Assistant**, RustFest (Universitat Politècnica de Catalunya)	*Barcelona, Spain*
2019	**Assistant**, Fast Machine Learning Workshop (Fermi National Accelerator Laboratory)	*Batavia, IL, USA*
2017	**Assistant**, Tendencies in Big Data and Analytics (Pontificia Universidad Javeriana)	*Bogotá, Colombia*
2016	**Scholarship Assistant**, 24th Physics Summer School (Universidad Nacional Autónoma de México)	*México, México*
2016	**Scholarship Assistant**, 1st Mexican AstroCosmoStatistics School (Universidad de Guanajuato)	*Guanajuato, México*
2013	**Speaker**, 4th Colombian Congress in Astronomy and Astrophysics (Universidad de Nariño)	*Pasto, Colombia*
2013	**Assistant**, Astronomy Workshop (Universidad de los Andes)	*Bogotá, Colombia*
2013	**Assistant**, 5th Mathematical Physics School (Universidad de los Andes)	*Bogotá, Colombia*
2010	**Assistant**, Workshop on Physics and Technology at CERN (Universidad Nacional de Colombia)	*Bogotá, Colombia*

Programming

Rust
- Main development language for the last 2 years.
- Contributor to the Rust compiler and Miri for the last 3 years.
- Small contributions to Rust related projects as Servo and Cargo.

Python
- Main scripting language to automatize tasks.
- Used for data processing and machine learning tasks in industry.
- Developed various web applications for data gathering processes.

Other languages
- Bash
- Haskell
- Racket
- C
- Elixir
- Scala
- Java
- JavaScript

Tools
- Git
- LaTeX
- Docker
- Redis
- PostgreSQL
- MongoDB
- Spark
- HDFS

Languages

Spanish Native   **English** C1   **German** B1