

# Julián Mauricio Cruz Pulido

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Data scientist, professional in Statistics and Master of Sciences. Currently, manager of the Data Science Program in the Continuing Education Office at Universidad Nacional de Colombia. Research professor at Universidad Externado de Colombia. Individual with more than 5 years of experience in proposal, execution, evaluation and feedback of actionable data analysis projects in various fields. Among the skills that can be mentioned are: team building, effective communication and commitment to details.

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## Background

### Education

- M.Sc. Statistics, master thesis: [Aplicación de Algoritmos de Agrupamiento a Funciones de Distribución Empírica](#). National University of Colombia. September of 2018.
- Statistics, dissertation: Estimación Heurística de Medidas de Probabilidad Mediante Mixturas. Universidad Nacional de Colombia. May of 2015.

### Software skills

- Expert: R
- Advanced: Microsoft Office (Word, Excel, Power Point); Inkscape.
- Basic: SQL, Python, HTML5, CSS3, PHP, LaTeX, Java, C++, Blender, Linux, Bash, Docker.

### Languages

- English: B1 (Examen de Estado de Calidad de la Educación Superior, Saber Pro 2013)

### Publications

- Arias, N., Cruz, J., & Rincón, W. (2021). [Diferencia de logro geolocalizado en educación presencial y a distancia en Colombia](#). *Revista Electrónica de Investigación educativa REDIE*.
- Arias, N., & Cruz, J. (2021). [Temas de investigación sobre competencias de profesores en iniciativas de actores externos en escuelas colombianas de educación básica y media](#). *Poliantea*.
- Cruz, J., & Mendoza, F., (2021). [The market segmentation of higher education in Colombia reveals social inequalities](#). *Cogent Education*.
- Cruz, J., Fonseca, V., (2020). [Interpreting the model is for humans, not for computers](#). *Towards DataScience*.
- Cruz, J., Yepes, G., et.al. (2019) [Estado de las prácticas empresariales contra el soborno: primer estudio latinoamericano](#). *Icontec Internacional*. ISBN: 978-958-56842-3-2.
- Bustos, L., Cruz, J., Yepes, G., et.al. (2019). [Chapter 16: International CSR Policies in the Mining Sector and Their Implementation in Colombia](#). *LexisNexis Canada*.
- Arias, N., Cruz, J., & Rincón, W. (2018). [Women and Men's Performace in Face-to-face, Virtual and Distance Higher Education in Colombia](#). *Revista Panorama*, 12(22), 58-69. DOI: <http://dx.doi.org/10.15765/pnrm.v12i22.1142>.

- Cruz, J., Yepes, G., (2018) [Corrupción en Colombia: El soborno corporativo como institución](#). Universidad Externado de Colombia. ISBN 978-958-772-880-4.
- Arias, N., Cruz, J., & Rincón, W. (2017). [Factores asociados al logro educativo en estudiantes de Ciencias Económicas en modalidad presencial y a distancia en Colombia](#). *III Congreso Mundial de Educación Superior a Distancia*.
- Cruz, J., Yepes, G., et.al. (2015). [Estado de la Responsabilidad Social Empresarial en Colombia](#). *Avances de Entorno de los Negocios*. N° 20, ISSN 1794 – 791X. Universidad Externado de Colombia.

## Learning projects and acknowledgments

- 3rd International Congress “Estudios en Organizaciones Públicas, Privadas y Sociales en América Latina y El Caribe”. Presentation: *Logro Educativo y Evidencias de sus posibles Factores Asociados en Estudiantes de Ciencias Económicas en Modalidad Presencial y Virtual*, with Nicolás Arias and William Rincón.
- R package: [Saber](#), with Daniel Moreno and Adriana Clavijo.
- R package: [Colmaps](#), with Daniel Moreno and Adriana Clavijo.
- 25 Simposio Internacional de Estadística 2015. Presentation: [Un micro-mapa de Colombia](#), with Daniel Moreno and Adriana Clavijo.
- 24 Simposio Internacional de Estadística 2014. Presentation: *Uso De Metaheurísticas en Estimación Nadaraya-Watson con Aplicación a Cirugía Refractiva*.
- 24 Simposio Internacional de Estadística 2014. Presentation: *Algoritmos de Agrupación en Diseño de Experimentos. Una Propuesta No Paramétrica*.
- National best score by career in Saber Pro test, 2013.
- Full scholarship at Universidad Nacional de Colombia for best entrance score, 2009.
- Best score in ICFES exam in his promotion and Honorable Mention for artistic development, 2002.

## Working Experience

### Universidad Externado de Colombia

Statistical consultancy in research. Methodological design, data collection, estimation of parameters, sample sizes, form design, survey development, web platform development, sample design and quantitative analysis, among others, for the studies:

- Index of Institutionalization of Bribery in Latin America and the Caribbean. Published in the book [State of business practices against bribery: first Latin American study](#).
- National Transparency Study 2018. Report published by Transparency for Colombia.
- Corporate Bribery as an Institution. Published in the book [Corruption in Colombia](#).
- National Transparency Study 2016. Report published by Transparency for Colombia.

Additionally, brief interventions and collaborations for some Master’s theses and research articles.

- Role: Professor
- Immediate boss: [Gustavo Yepes](#)
- Contact: [gustavo.yepes@uexternado.edu.co](mailto:gustavo.yepes@uexternado.edu.co)
- April 2016 - Currently.

### Colombian Ministry of Information Technology and Communications

Management of the Data Science team. Start-up of the analytics procedure. Proposal, execution, evaluation and feedback of Data Science projects for the analysis of the information contained in the information systems that incorporate the use of analytical tools for large volumes of information (Big Data), in compliance with all the related with legal, contractual and regulatory obligations of the companies that provide mobile, non-mobile, television, sound broadcasting and postal services.

- Role: Head of Data Science
- Immediate boss: Nicolás Almeyda
- Contact: [nalmeyda@mintic.gov.co](mailto:nalmeyda@mintic.gov.co)
- August 2020 - December 2021.

## Colmena Occupational Risk Insurer

Statistical advice on occupational health and safety for Sanitas Internacional. Implementation of information systems, database design, data collection and analysis of occupational medical cases and measurement of occupational health impact indicators. Advice to 3 Epidemiological Surveillance Systems: Psychosocial, Ergonomic and Biological Risk, and implementation of algorithms to identify frequent absenteeism.

- Role: Project Prevention Advisor
- Immediate boss: [Mario Garzón](#)
- Contact: [mfgarzon@colsanitas.com](mailto:mfgarzon@colsanitas.com)
- February 2014 – February 2015

## Optilaser

Statistical consulting in research. Methodological design, statistical analysis, visualization and interpretation of quantitative results in visual health.

- Role: Statistical advisor in scientific research.
- Immediate boss: [María Victoria Báez](#)
- Contact: [vicky.baez@optilaser.com.co](mailto:vicky.baez@optilaser.com.co)
- June 2011- January 2013

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## References

References will be sent under request.