Felipe Pérez

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SUMMARY

Data Scientist with Phd. in mathematics, proficient in data mining, supervised and unsupervised machine learning techniques, including an ample knowledge in deep learning. Strong programming skills, with expertise in Python and Scala.

- Data scientist.
- Strong mathematical background (Ph.D. in mathematics).
- Proficient in data mining, supervised & unsupervised machine learning, and deep learning.

TECHNICAL SKILLS

Programming Languages:	Python (TensorFlow, Pandas, Scikit-learn, Numpy, Scipy, Matplotlib) | SQL | Scala | Spark | LaTeX |
Machine Learning:	| Deep Learning | Classification | Regression | XGBoost | Random Forest | K-Means | Naïve Bayes | GLM | Natural Language Processing | ARIMA | SVM | SVC

PROFESSIONAL DEVELOPMENT

Project Highlights

- Finalist Hackon(Data) competition 2017: Built a model to predict SalesRank of products from the Amazon reviews dataset.
- NLP talks series (May 2017-current): Have been giving a series of Deep Learning NLP talks as a mini-course which involve a collection of small projects ranging from vector embedding models to text generation.
- ArXiv Abstracts text classification (On going).
- Molecular interaction simulation: Successfully modeled molecular interactions using a random walk model confined in a finite space.

PROFESSIONAL EXPERIENCE

Postdoctoral Researcher, Georgia State University **2015.8 – 2017.5**

Conducted research in Algebraic Geometry and Commutative Algebra, and gave math courses:

- Produced three papers on the topic of the behavior of singularities in positive characteristic published in top journals (e.g. Transactions of the American Mathematical Society.)
- Gave math courses at undergraduate and graduate levels.

GSI, University of Michigan. **2009.8 – 2015.5**

Conducted research and taught undergraduate-level classes:

- Produced four papers on the topic of invariants associated to singularities published in top journals (e.g. Journal of Algebra.)

- Taught eight undergraduate-level math classes, including differential, integral, and several variable calculus, linear algebra, and received great student evaluations.

HONORS AND GRANTS (Selected)

- HackerRank 97th percentile Algorithms, 3 silver and 1 bronze medals, 2015-2017.
- The Pat Shure Excellence in Teaching Award, 2015.
- Michigan Mathematics Graduate Fellowship, 2009-2015.
- Alice Webber Glover Fellowship, Summer 2011.
- Master Fellowship from Mazda Foundation for Arts and Science, 2007-2009.
- Third Prize International Math Competition, 2005.

EDUCATION

University of Michigan **2009.8 - 2015.5**
Ph.D., Mathematics.
Thesis: Comparing invariants between positive and zero characteristic singularities.

Universidad Nacional de Colombia **2007.1 - 2009.4**
Master, Mathematics.
Thesis: On Koh's Conjecture.

Universidad Nacional de Colombia **2003.1 - 2006.12**
B.S., Mathematics.

PUBLICATIONS (Selected)

- R. Huang, **Pérez, F**, "Probing the cooperativity of Thermoplasma acidophilum proteasome core particle gating by NMR spectroscopy", 2017. *Proceedings of the National Academy of Sciences* (under revision).
- D. Hernández*, L. Núñez-Betancourt*, **F**. **Pérez***, and E. Witt*, "Lyubeznik numbers and the injective dimension of local cohomology modules in mixed characteristic", 2017. *Transactions of the American Mathematical Society*. (In press). *Shared first authorship.
- A. De Stefani*, L. Núñez-Betancourt*, and **F. Pérez***, "On the existence of F-thresholds and related limits", 2017. *Transactions of the American Mathematical Society*. (In press) *Shared first authorship.
- L. Núñez-Betancourt*, **F**. **Pérez***, "F-jumping and F-Jacobian ideals for hypersurfaces.", 2016. *Journal of Pure and Applied Algebra.* *Shared first authorship.
- **Pérez, F**. "On the constancy regions for mixed test ideals", 2013. *Journal of Algebra.*