Uzmar de Jesús Gómez Yáñez

Curriculum Vitae

Data Scientist I at Rackspace Technology, BSc in Physics

Personal Statement

Learned to program throughout the Physics career, mainly in topics of scientific computing. Hands-on experience applying Machine Learning algorithms to real business problems. Excellent usage of GNU / Linux systems and knowledge of several object-oriented programming languages such as Python and C++. I have also worked in the academic field as a teacher assistant, teaching mathematics, computer science and physics topics at a university level. Good understanding of algorithms and data structures.

Personal Data

Address:	Mexico City, Mexico
Phone:	+52 5539347885
email:	uzmar.gomez@ciencias.unam.mx
LinkedIn:	www.linkedin.com/in/uzmargomez
Github:	https://github.com/uzmargomez

Education

Physics

2018 **Bachelor of Science in Physics**, Faculty of Science, National Autonomous University of Mexico (UNAM), Mexico City, Mexico.

2011 Thesis: *"Numerical Study of Vlasov Equation in the Schwarzschild Metric"*

Description: Creation of a finite differences scheme that evolves the relativistic Vlasov equation on a black hole metric background, assuming this is an advective equation, with velocities dependent both on time and position.

Advisor: Dr. Miguel Alcubierre

Overall Score: 9.37/10 | Detailed List of Grades

Computer Science

2010 **Technical Career in Computer Science**, ENP Nº 7 National Autonomous University of Mexico (UNAM), Mexico City, Mexico.

2008 Overall Score: 9.1/10 | Detailed List of Grades

Computer Skills

Programming Languages	Python, C/C++, Fortran, Julia, Go
Machine/Deep Learning	TensorFlow, Keras, PyTorch, Facebook Prophet, ARIMA, SARIMA, LDA, PCA, Recommendation systems, Classification problems
Databases	SQL, MongoDB
Containers	Docker, Kubernetes
Operating Systems	Debian GNU/Linux, Ubuntu GNU/Linux, Windows
Web Backend	Flask
Web Frontend	HTML, Bootstrap
Version Control	Git
Parallel Computing	CUDA C/C++, CUDA Python
Data Visualization	Tableau, Qlik
GCP Tools (Console and CLI)	BigQuery, Compute Engine, Composer, Container Registry, Kubernetes Engine, Storage, Data Studio

Languages

English:	C1 Level - Duolingo English Test (2020), B2 Level - IELTS (2018)
Spanish:	Mothertongue

Interests and Activities

Academic

Data Science, Machine Learning, Deep Learning, Numerical Analysis, Competitive Programming, General Relativity, Numerical Relativity, Gravitational Waves, Black Holes, Quantum Mechanics, Computer Science, Electromagnetism.

Non academic

Running, Swimming, Playing the Guitar, Science Fiction and Fantasy Reading, Traveling, Videogames.

Experience

Short Description

Jul 2020 - Present. I'm currently working as a Data Scientist I at Rackspace Technology. I helped on the migration of data from on-premises servers to the GCP cloud. I have used Big Query for consulting, and Data Studio for data exploration. I am working on a way to create a churn prediction model that uses a feature related to the COVID19 spreading aside from other business-related features.

Dec 2019 - Jun 2020. I worked on a face recognition system using a method called Sparse Representation and another one using Neural Networks. I acquired a deep understanding of Neural Networks for Face Detection and Recognition, Image Classification, Language Processing, among others. Also, I have some experience in Data Visualization tools such as Tableau.

Sep 2019 - Dec 2019. Data Scientist Trainee at Softtek. I learned about different statistical and machine learning techniques, as well as algorithms, to study a wide variety of problems.

2012 - 2019. As mentioned below, I have taught Computer Science classes, in which the Python programming language was introduced to Physics students.

Sep 2018 - Dec 2019. I have research experience using the Einstein Toolkit, a software platform created for advancing and supporting research in relativistic astrophysics and gravitational physics.

Subjects I have taught:

- Computer Science.
  https://web.fciencias.unam.mx/asignaturas/102.pdf
- Selected Topics in Relativity, Cosmology and Gravitation 1.
  https://web.fciencias.unam.mx/docencia/horarios/presentacion/295997
- Relativity
  https://web.fciencias.unam.mx/asignaturas/718.pdf
- Mathematics I for Applied Sciences.
  http://www.fciencias.unam.mx/asignaturas/1118.pdf
- Mathematics II for Applied Sciences.
  http://www.fciencias.unam.mx/asignaturas/1216.pdf

Technical

Present Jul 2020	Data Scientist I at Rackspace Technology Mexico City, Mexico.
Jun 2020 Dec 2019	Data Scientist at Softtek Mexico City, Mexico.
Dec 2019 Sep 2019	Data Scientist Trainee at Softtek Mexico City, Mexico.

Vocational

Semester 2019-2	Teacher Assistant B at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Mathematics II for Applied Sciences	MSc. Alejandro Villarreal
Semester 2019-1	Teacher Assistant B at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Selected Topics in Relativity, Cosmology and Gravitation I	Dr. Miguel Alcubierre
	○ Mathematics I for Applied Sciences	MSc. Alejandro Villarreal
Semester 2018-2	Teacher Assistant B at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Relativity	Dr. Miguel Alcubierre
	○ Mathematics II for Applied Sciences	MSc. Alejandro Villarreal
Semester 2018-1	Teacher Assistant B at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Relativity	Dr. Miguel Alcubierre
	○ Mathematics I for Applied Sciences	MSc. Alejandro Villarreal
Semester 2017-2	Teacher Assistant A at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Mathematics II for Applied Sciences	MSc. Alejandro Villarreal
Semester 2017-1	Teacher Assistant A at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Mathematics I for Applied Sciences	MSc. Alejandro Villarreal
	○ Computer Science	MSc. Alejandro Villarreal
Jun 2017	Teacher at Coordination of Programs of Differentiated Attention for Students, Faculty of Engineering, UNAM Mexico City, Mexico.	
	○ Electrodynamics with an introduction to special relativity	Eng. Raúl Puente
Semester 2016-1	Teacher Assistant A at Faculty of Science, UNAM Mexico City, Mexico.	
	○ Mathematics I for Applied Sciences	MSc. Alejandro Villarreal

Conferences, Courses, Schools and Workshops Attended

Computer Science Related

Oct 09, 2020 – Oct 08, 2020 | **Conference**. *THE Data Science Conference*
Online conference due to COVID19
https://www.thedatascienceconference.com

Oct 09, 2020 – Oct 08, 2020 | **Course**. *Building Resilient Streaming Analytics Systems on GCP* (COURSERA)
Google Cloud Platform
https://www.coursera.org/account/accomplishments/certificate/ZNG729Z9L78P

Oct 08, 2020 – Oct 07, 2020 | **Course**. *Modernizing Data Lakes and Data Warehouses with GCP* (COURSERA)
Google Cloud Platform
https://www.coursera.org/account/accomplishments/certificate/JUDDNMKRSBUA

Oct 07, 2020 – Sep 10, 2020 | **Course**. *Building Batch Data Pipelines on GCP* (COURSERA)
Google Cloud Platform
https://www.coursera.org/account/accomplishments/certificate/8KTYPM3GZQS7

Sep 10, 2020 – Sep 01, 2020 | **Course**. *Smart Analytics, Machine Learning, and AI on GCP* (COURSERA)
Google Cloud Platform
https://www.coursera.org/account/accomplishments/certificate/LAZ8CNLM2M5A

Ago 09, 2020 – Ago 01, 2020 | **Course**. *Google Cloud Platform Big Data and Machine Learning Fundamentals* (COURSERA)
Google Cloud Platform
https://www.coursera.org/account/accomplishments/certificate/S9HSH92LSALR

Jun 19, 2020 – Jun 15, 2020 | **Course**. *Convolutional Neural Networks in TensorFlow* (COURSERA)
DeepLearning.ai
https://www.coursera.org/account/accomplishments/certificate/76LGX8GCUG5D

Jun 15, 2020 – Jun 15, 2020 | **Course**. *Introduction to TensorFlow for Artificial Intelligence, Machine Learning, and Deep Learning* (COURSERA)
DeepLearning.ai
https://www.coursera.org/account/accomplishments/certificate/LZJ2FSW2RJGP

May 04, 2020 – Mar 04, 2020 | **Course**. *AI & Deep Learning with TensorFlow* (EDUREKA)
Edureka! For Business
https://www.edureka.co/lms/certificate/c3d0ebdc5518b429f6cc1a009454a9df

Mar 26, 2020 – Ago 04, 2019 | **Specialization**. *Accelerated Computer Science Fundamentals* (COURSERA)
University of Illinois at Urbana-Champaign
https://www.coursera.org/account/accomplishments/specialization/certificate/DRF2CVM7P7FB

Mar 26, 2020 – Sep 15, 2019 | **Course**. *Unordered Data Structures* (COURSERA)
University of Illinois at Urbana-Champaign
https://www.coursera.org/account/accomplishments/certificate/DFHE5FBHVAAD

Mar 04, 2020 – Feb 10, 2020 | **Course**. *Python Statistics for Data Science Course* (EDUREKA)
Edureka! For Business
https://www.edureka.co/lms/certificate/8a0976c4e21d5bee00ff053e2d8e3f3e

Sep 15, 2019 – Ago 11, 2019 | **Course**. *Ordered Data Structures* (COURSERA)
University of Illinois at Urbana-Champaign
https://www.coursera.org/account/accomplishments/certificate/PZ9NABHA7XBY

Ago 11, 2019 – Ago 04, 2019 | **Course**. *Object-Oriented Data Structures in C++* (COURSERA)
University of Illinois at Urbana-Champaign
https://www.coursera.org/account/accomplishments/certificate/2YKURK8TJJ5B

Jul 29, 2019 – Jun 02, 2019 | **Course**. *Algorithmic Toolbox* (COURSERA)
University of California San Diego, National Research University Higher School of Economics
https://www.coursera.org/account/accomplishments/certificate/FBZ5SK3E9BB6

Apr 17, 2019 – Apr 03, 2019 | **Course**. *Operating Systems and You: Becoming a Power User* (COURSERA)
Grow with Google, Mexico City, Mexico.
https://www.coursera.org/account/accomplishments/certificate/V6STDES4HLPE

Mar 10, 2019 – Mar 08, 2019 | **Course**. *Python Data Structures* (COURSERA)
University of Michingan, Michigan, United States.
https://www.coursera.org/account/accomplishments/certificate/L6Y7MZQDAJHP

Feb 26, 2019 – Feb 21, 2019 | **Course**. *Programming for Everybody (Getting Started with Python)* (COURSERA)
University of Michingan, Michigan, United States.
https://www.coursera.org/account/accomplishments/certificate/CNNYCJB5YB46

Feb 14, 2019 – Feb 03, 2019 | **Course**. *Technical Support Fundamentals* (COURSERA)
Grow with Google, Mexico City, Mexico.
https://www.coursera.org/account/accomplishments/certificate/YQRPQLC86CUM

Feb 5, 2019 – Feb 3, 2019 | **Course**. *Introduction to Data Science: Statistical Programming with R* (COURSERA)
National Autonomous University of Mexico, Mexico City, Mexico.
https://www.coursera.org/account/accomplishments/certificate/E75DVAG2956T

Jun 13, 2018 – Jun 9, 2018 | **School**. *Deep Learning and Multimessenger Astronomy*
Tecnológico de Monterrey, Guadalajara, Mexico.

Jan 27, 2017 – Jan 16, 2017 | **Course**. *Basic Linux*
Faculty of Engineering UNAM, Mexico City, Mexico.

Jul 01, 2016 – Jun 20, 2016 | **Course**. *Fortran Fundamentals*
Faculty of Engineering UNAM, Mexico City, Mexico.

Physics Related

Nov 11, 2018 – Nov 9, 2018 | **School**. *Third Meeting of the Thematic Network of Black Holes and Gravitational Waves.*
Playa del Carmen, Quintana Roo, Mexico.

Nov 9, 2018 – Nov 5, 2018 | **School**. *Third School of Relativity and Gravitational Waves. XII School of the Division of Gravitation and Mathematical Physics.*
Playa del Carmen, Quintana Roo, Mexico.

Aug 12, 2017 – Aug 10, 2017 | **Workshop**. *Fifth Gravitation and Cosmology Workshop.*
Institute of Physical Sciences UNAM, Cuernavaca, Mexico.

Aug 9, 2017 – Aug 7, 2017 | **School**. *Second School of Relativity and Gravitational Waves.*
Institute of Physical Sciences UNAM, Cuernavaca, Mexico.

Jan 18, 2016 – Jan 7, 2016 | **Course**. *Introduction to Relativistic Electrodynamics*
Faculty of Engineering UNAM, Mexico City, Mexico.

Professional Membership

Sep 2019 – Jan 2017 | Fellow
Thematic Network of Black Holes and Gravitational Waves (Red ANyOG, CONACYT).

Dec 2019 – Jan 2016 | Student Associate
Institute of Nuclear Sciences, UNAM.

Jan 2016 – Jan 2015 | Student Associate
Institute of Physics, UNAM.

Volunteer Activities

Sep 2019 – Mar 2019 | Teacher
University Student Council (CEU México)
Provide university students with tools to help develop their academic, professional and personal skills, to facilitate their employment and the definition of their life project.

Mar 2019 – Sep 2018 | Volunteer
Adopt a Talent Program (PAUTA)
Encourage scientific vocation so that those children and adolescents who like science, as well as those with outstanding skills, find a space where they can share their interest and learn from each other.

Presentations and Poster Sessions

Oct 11, 2017 | Poster Presentation at LX National Congress of Physics.
Monterrey, Mexico
Presentation of a poster about my undergraduate thesis "Numerical Study of Vlasov Equation in the Schwarzschild Metric".

Scholarships, Awards, Honors and Accomplishments

2017 – 2016 | Scholarship awarded for Conclusion of Proyect
Support Program for Research Projects and Technological Innovation (PAPIIT).

2016 – 2015 | Scholarship awarded for Conclusion of Undergraduate School
Support Program for Research Projects and Technological Innovation (PAPIIT).

References

Name: Dr. Charles Mueller
Institution Name: Rackspace Technology, USA
Occupation: Data Scientist IV
email: charles.mueller@rackspace.com

Name: Dr. Fernando Herrera
Institution Name: Softtek, Mexico
Occupation: Senior Data Scientist
email: fernandoj.herrera@softtek.com

Name: Dr. Alejandro Villarreal
Institution Name: Faculty of Science, UNAM.
Occupation: Researcher, Teacher
email: alejandro.v@ciencias.unam.mx

Name: Dr. Miguel Alcubierre
Institution Name: Institute of Nuclear Sciences, UNAM.
Occupation: Director, Researcher, Teacher
email: malcubi@nucleares.unam.mx

Bachelor of Science in Physics

National Autonomous University of Mexico (UNAM)

Grades

Course	Grade	Credits
Differential and Integral Calculus I	07	18
Algebra	10	10
Computer Science	10	6
Analytic Geometry I	08	10
Differential and Integral Calculus II	10	18
Contemporary Physics	09	6
Vector Mechanics	9	12
Analytic Geometry II	09	10
Mechanics Laboratory	10	6
Collective Phenomena	10	12
Collective Phenomena Laboratory	09	6
Linear Algebra I	10	10
Differential Equations I	08	10
Optics	09	12
Linear Algebra II	10	10
Differential and Integral Calculus III	07	18
Electromagnetism I	9	12
Electromagnetism Laboratory	10	6
Tensor Calculus	9	10
Differential and Integral Calculus IV	07	18
Introduction to Quantum Physics	10	12
Optics Laboratory	10	6
Thermodynamics	09	12
Advanced Mathematics of Physics	10	10
Computational Physics	10	12
Quantum Mechanics	09	12
Complex Variable I	10	10
Selected Topics of Mathematics and Theoretical Physics	10	6
Electromagnetism II	08	12
Electronics Laboratory	10	6
Statistical Physics	10	12
Contemporary Physics Laboratory I	10	6
Complex Variable II	10	10
Analytical Mechanics	10	12
Relativity	09	06
Introduction to Elementary Particle Physics I	10	06
Dynamics of Deformable Bodies	10	12
Atomic Physics and Condensed Matter	09	06
Nuclear and Subnuclear Physics	09	06
Contemporary Physics Laboratory II	10	06
Topology and Differential Geometry for Physics	10	06
Selected Topics of Relativity, Cosmology and Gravitation I	10	06
Selected Topics of Computational Physics I	10	06
English Language	AC	00
	Total Credits	418
	Overall Score	**9.37**

Technical Career in Computer Science

National Autonomous University of Mexico (UNAM)

Grades

Course	Grade
Introduction to Computer Science	9
Operating Systems	10
General Use Aplications	9
Problem Solving and Programming Techniques	9
Structured Programming	10
Event-Oriented Programming	9
Systems Analysis and Design	10
Database-Oriented Programming	6
Local Area Networks	9
Preventive Maintenance and Minor Corrections for PC's	10
Overall Score	**9.1**