

# Jordy Cheyem Lopez Garcia

## *Curriculum Vitae*

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### Personal Information

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### Education

- 08/19 – **Doctor of Philosophy in Mathematics**, *Texas A&M University*, College Station, Texas.  
Advisors: Frank Sottile and Paulo Lima-filho
- 01/14–05/16 **Master of Science in Mathematics**, *The University of Texas Rio Grande Valley*, Brownsville, Texas, *GPA 4.00/4.00*.  
Advisor: Paul-hermann Zieschang. Thesis: *On Hypergroups of Order at Most 6*
- 08/11–05/16 **Bachelor of Science in Mathematics**, *The University of Texas Rio Grande Valley*, Brownsville, Texas, *GPA 3.94/4.00*.  
Summa Cum Laude and Minor in Art
- 09/13–06/15 **Worship Music Certificate**, *Instituto de Musica Alabanza Total*, Brownsville, Texas.
- 08/00–07/14 **Visual Arts Practice**, *Academia de Artes Visuales*, Matamoros, Tamps., Mexico.
- 08/07–05/11 **High School Diploma**, *Valley Christian High School*, Brownsville, Texas, GPA 98.82/100.00.  
Valedictorian

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### Publications

Lopez, Jordy C., On Hypergroups of Order at Most 6. Master of Science (MS), May, 2016, 38 pp., 51 tables, references, 8 titles.

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## Work Experience

- 08/19 – **Graduate Teaching Assistant**, *Texas A&M University*, College Station, TX, USA, I graded for UG Combinatorics, Applied Algebra and Intro to Math Proof. More recently, I led Calculus recitations that taught students how to code in Python, and I taught through Zoom Mathematics for Business and Social Sciences during Summer 2021.
- 09/17–06/19 **Sunday School Teacher Volunteer**, *Restauracion y Poder Church*, Brownsville TX, USA.  
Bible Teacher for Migrant Children
- 09/16–05/19 **Lecturer I**, *The University of Texas Rio Grande Valley*, Brownsville TX, USA.  
Taught a variety of courses (see Courses Taught Section)
- 08/16–05/19 **High School Teacher**, *Valley Christian High School*, Brownsville TX, USA.  
Taught Dual Enrollment College Algebra, Advanced Math, Algebra II and volunteered to teach Oil Painting
- 02/17–05/17 **Adjunct Instructor**, *Texas Southmost College*, Brownsville TX, USA, I taught Dual Enrollment College Algebra at Valley Christian High School.
- 09/15–05/16 **Graduate Teaching Assistant**, *The University of Texas Rio Grande Valley*, Brownsville TX, USA, As a GTA, I proctored exams, graded papers and tutored.
- 06/15–08/15 **College of Sciences Graduate Assistant**, *The University of Texas at Brownsville*, Brownsville TX, USA.  
I created the MathJax code for a pool of questions for Math Education courses.
- 09/14–05/15 **Teaching Assistant**, *The University of Texas at Brownsville*, Brownsville TX, USA, I proctored exams, graded papers and tutored.
- 07/14–08/14 **College of Sciences Tutor**, *The University of Texas at Brownsville*, Brownsville TX, USA.  
I tutored students in a Precalculus JumpStart course and held two workshops prior to their exams. Additionally, I held an Algebra II workshop for high school students of the Math and Science Academy of UT Brownsville.
- 01/14–05/14 **Title V Calculus Tutor**, *The University of Texas at Brownsville*, Brownsville TX, USA.  
Certified CRLA Level 1. I held weekly workshops for Calculus I students.
- 08/13–12/13 **Learning Enrichment Tutor**, *The University of Texas at Brownsville*, Brownsville TX, USA, I tutored a variety of courses ranging from College Algebra to Calculus.
- 08/12–05/13 **Teaching Assistant**, *The University of Texas at Brownsville*, Brownsville TX, USA, I tutored a variety of courses ranging from College Algebra to Calculus.

03/12–05/12 **Instructor Assistant**, *The University of Texas at Brownsville*, Brownsville TX, USA.

I created pools of problems of Elementary Statistics and monitored the Facebook page of the Math Department of UT Brownsville.

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## Other Professional Activities

08/21 – **Directed Reading Program , Co-Organizer**, *Texas A&M University*, College Station, TX.

Together with Angelique Morvant and Dr. Anne Shiu, I promote such nation-wide program among undergrad and graduate students, select recipients, and host the DRP symposium at the end of the semester.

08/21 – **Graduate Algebra Symposium, Co-Organizer**, *Texas A&M University*, College Station, TX.

Together with Arpan Pal, I organize the TAMU chapter of the Graduate Student Symposium between Texas A&M University, the University of North Texas, the University of Texas at Arlington, and the University of Oklahoma.

08/21 – **Treasurer**, *Texas A&M University*, AMS Graduate Student Chapter, College Station, TX.

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## Courses Taught

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| ◦ Math Project (co-advisor)      | ◦ Math for Liberal Arts/ Business and Social Sciences |
| ◦ Calculus I                     | ◦ Calculus II   |
| ◦ Precalculus                    | ◦ College Algebra                                     |
| ◦ Fundamentals of Mathematics I  | ◦ Fundamentals of Mathematics II                      |
| ◦ Elementary Statistical Methods | ◦ Pre-Statistics                                      |

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## Courses Tutored

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| ◦ Functions, Trigonometry and Linear Systems (Precalculus with Python) | ◦ Engineering Mathematics II Calculus II with Python) |
| ◦ College Algebra  | ◦ Contemporary Mathematics                            |
| ◦ Precalculus  | ◦ Calculus I  |
| ◦ Calculus II  | ◦ Calculus III  |
| ◦ Statistics   | ◦ Linear Algebra                                      |
| ◦ Modern Algebra   | ◦ Discrete Mathematics                                |
| ◦ UG Real Analysis   | ◦ Point-Set Topology                                  |

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## Undergraduate Projects I Mentored

- 04/21 **Directed Reading Program with Tessorá Stefan**, *Texas A&M University*, I guide a directed reading on Munkres' Topology and the proof of the infinity of primes using the arithmetic-progression topology.
- 05/19 **Poster: Minimum Network Problems by Alexandra Castillo**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: Robin and Lagarias Criteria by Andrea Lerma**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: Four Color Theorem by Brenda Garcia**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: License Plates Recognition Using Neural Networks by Armando Silva**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: Voronoi Diagrams and Delaunay Triangulations by Estefania Sierra**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: Kepler's Conjecture by Monica Muñoz**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 05/19 **Poster: The Cake Cutting Problem by Ana Gabriela Gutierrez**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 12/18 **Poster: The Isoperimetric Problem of Polyhedra by Aldo Gonzalez**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.
- 12/18 **Poster: Two-Distance Sets by Jessica Juarez**, *The University of Texas Rio Grande Valley*, I co-advised the project with Dr. Oleg Musin.

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## Presentations

- 12/03/21 **Algebraic Compressed Sensing**, *Texas A&M University*, Nonlinear Algebra seminar course, College Station, Texas.
- 11/13/21 **Using Macaulay2 to Count Real Roots of Univariate Polynomials**, *University of North Texas*, Graduate Algebra Symposium, Zoom.
- 11/5/21 **Using Macaulay2 to Count Real Roots of Univariate Polynomials**, SIAM TX/LA Conference, South Padre Island, Texas.
- 05/06/21 **Nash-Kuiper Theorem**, *Texas A&M University*, H-Principle seminar course, College Station, Texas.

- 03/27/21 **What is a Scheme?**, *Texas A&M University*, GIG'EM Graduate Student Conference, College Station, Texas.
- 12/07/20 **Hopf-Rinow Theorem**, *Texas A&M University*, Differential Geometry 2 course, College Station, Texas.
- 12/20 **Sturm's Theorem and Friends**, *Texas A&M University*, Computational Algebraic Geometry course, College Station, Texas.
- 05/16 **The Baker-Campbell-Hausdorff Formula**, *The University of Texas Rio Grande Valley*, Master Project Capstone, Brownsville, Texas.
- 04/16 **On Hypergroups of Order at Most 6**, *The University of Texas Rio Grande Valley*, Thesis Defense, Brownsville, Texas.
- Spring 2015 **Hypergroups and Buildings 2**, *The University of Texas at Brownsville*, Pure Math Seminar, Brownsville, Texas.
- Spring 2015 **Hypergroups and Buildings 1**, *The University of Texas at Brownsville*, Pure Math Seminar, Brownsville, Texas.
- Spring 2013 **On Galois Theory**, *The University of Texas at Brownsville*, Algebra Day, Brownsville, Texas.

## --- Honors, Awards and Memberships

- 08/19– **AMS Student Member.**
- 08/19– **MAA Student Member.**
- 08/11–05/16 **BS Summa Cum Laude**, *The University of Texas Rio Grande Valley*.
- 01/15–05/16 **Baptist Student Ministry member**, *The University of Texas Rio Grande Valley*, Volunteered in several community events and gave a talk on the life of King David from the Bible.
- 01/14–05/16 **4+1 BS/MS in Math**, *The University of Texas Rio Grande Valley*.
- 08/11–05/16 **Scorpion Scholar**, *The University of Texas at Brownsville*, I received full financial support for the Bachelor degree and part for the Master degree in Mathematics.
- 08/11–05/14 **Scholastic Excellence Award in Mathematics**, *The University of Texas at Brownsville*, Academic Achievement in the Mathematics Department.
- 05/14 **Student Juried Show Exhibitor**, *The University of Texas at Brownsville*.
- 08/13–05/14 **Chi Alpha member**, *The University of Texas at Brownsville*.
- 08/13–12/13 **College Reading and Learning Association Level 1**, *The University of Texas at Brownsville/Texas Southmost College*.
- 08/11–05/12, 05/13 **President's List**, *The University of Texas at Brownsville/Texas Southmost College*.

- 08/12–12/12 **Dean's List**, *The University of Texas at Brownsville/Texas Southmost College*.
- 01/12–05/12 **Provost Essay Finalist**, *The University of Texas at Brownsville/Texas Southmost College*, My essay on why Mexican-Americans cheer the Mexican soccer team when playing the US Team got to the finalist category.
- 05/11 **Paul Hanson Memorial Spiritual Leadership Award**, *Valley Christian High School*.
- 05/11 **Valedictorian**, *Valley Christian High School*.
- 05/11 **Distinguished Lecture Series Essay finalist**, *The University of Texas at Brownsville/Texas Southmost College*, Toms Shoes founder Blake Mycoskie selected my essay on the importance of giving to be in the finalist tier.
- 08/10–05/11 **Student Council President**, *Valley Christian High School*.
- 08/10–05/11 **Brownsville Jr. Leadership member**, *City of Brownsville, Texas, USA*, Hosted the "We CAN Rock Brownsville" concert to collect non-perishable items to give to families in need in the border cities of Matamoros, Mexico and Brownsville, USA.

## Languages

Spanish Mother Tongue  
 English Fluent  
 French Basic

## Computer skills

Typeset  $\LaTeX$  and Beamer  
 LMS Canvas, Blackboard, Schoology, ALEKS, Alta, Quizlet Live, Factile  
 Programming Macaulay2, Python  
 Graphical Surfer, Tikz, Geogebra, Desmos, Adobe Photoshop

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## References

- Dr. Frank Sottile  
Professor  
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- Dr. Paulo Lima-Filho  
Professor  
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College Station, Texas 77843  
Email: [plfilho@math.tamu.edu](mailto:plfilho@math.tamu.edu)
- Dr. Paul-Hermann Zieschang  
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