

Jordy Cheyem Lopez Garcia

Curriculum Vitae

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

Papers (Reverse Chronological)

- [1] Real Solutions to Systems of Polynomial Equations in Macaulay2. Submitted. Joint work with Maluccio, Sottile and Yahl.
- [2] On Hypergroups of Order at Most 6. Master of Science (MS), May, 2016, 38 pp., 51 tables, references, 8 titles.

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.
- 06/11/22– **Graduate Research Assistant**, *MSRI-UP*, Berkeley, CA, USA, I mentor students of the Mathematical Sciences Research Institute Undergraduate Program, led by Dr. Anne Shiu and Dr. Federico Ardila. I advised students on their research projects, and gave talks on Descartes' Rule of Signs and "How (Not?) to Give a Talk".
- 07/23/22
- 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.

Other Professional Activities

- 08/22 – **Twoples Directed Reading Program, Mentor**, *Online*.
- 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 – 08/22 **Treasurer**, *Texas A&M University*, AMS Graduate Student Chapter, College Station, TX.

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 |

Undergraduate Projects I Mentored

- 07/22 **REU with Awildo Gutierrez, Elijah Leake and Caelyn Sobie**, *MSRI Undergraduate Program*, I advised students on research paths, revised their research paper and gave constructive criticism on their talks.

- 07/22 **REU with Alexis Edozie, Odalys Garcia-Lopez and Viridiana Neri**, *MSRI Undergraduate Program*, I advised students on research paths, revised their research paper and gave constructive criticism on their talks.
- 04/21 **Directed Reading Program with Tessoro 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.

Presentations

- 05/03/22 **Poster: Using Macaulay2 to Study Real Roots of Polynomial Systems**, *University of Notre Dame*, Future Faculty Workshop, South Bend, Indiana.
- 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

- 05/22– **Houston A&M Mother's Club Outstanding TA Award.**
- 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

References

- Dr. Frank Sottile
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- Dr. Oleg Musin
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