Curriculum Vitae

MICHAEL C. CHAVRIMOOTOO[1]

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RESEARCH AREAS

Computational social choice (including voting/preference aggregation and hardness of electoral attacks), computational redistricting, hardness of games, approximation algorithms, parametrized complexity, matching algorithms, ambiguity-bounded computation, oracle-construction techniques.

EDUCATION

University of Rochester

- PhD in Computer Science, 2024.
  - Thesis Title: "Separations and Collapses in Computational Social Choice and Complexity Theory."
    Outstanding Dissertation Award, Hajim School of Engineering, University of Rochester.
  - Thesis Advisor: Professor Lane A. Hemaspaandra, University of Rochester.[2]
- MS in Computer Science, 2021.
- BS in Computer Science and BA in Political Science, 2020. *Cum laude*, highest distinction in computer science, and on the Dean's list every semester.

PROFESSIONAL EXPERIENCE

- **Tenure-Track Assistant Professor of Computer Science**, Denison University (OH), 08/2024–present.
- **Adjunct Faculty**, Rochester Institute of Technology (NY), Summers of 2021–2023.
- **Adjunct Instructor**, University of Rochester (NY), Summers of 2021–2023.
  Research Assistant for Algorithms in Parallel and Scalable Memory Allocation in Rust, University of Rochester, 05/2019–07/2020.
- **Fullstack Web Developer**, Warner School of Education (Rochester, NY), 01/2017–05/2019.
- **Cofounder and Lead Developer**, Purewebmasters Ltd (Mauritius), 10/2014–12/2016.

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[2] Thesis Committee: Prof. Edith Hemaspaandra (Rochester Institute of Technology), Prof. Lane A. Hemaspaandra (University of Rochester), Prof. Anson Kahng (University of Rochester), Prof. Jörg Rothe (Heinrich Heine University, Düsseldorf), and Prof. Len Schubert (University of Rochester).

HONORS, AWARDS, CERTIFICATIONS, AND FUNDING

- **Denison University Research Foundation**, Denison University, recipient of a $7,118 grant, Summer 2025.
- **Outstanding Dissertation Award**, University of Rochester, 05/2024.
- **Three Minute Thesis (3MT) Finalist**, University of Rochester, 10/2023.
- Recipient of a $1,040 **AAMAS Student Scholarship**, 05/2023.
- **Best Research Talk Award**, Graduate Research Day, University of Rochester, 10/2022.
- **Edward Peck Curtis Award for Excellence in Teaching by a Graduate Student**, University of Rochester, 05/2022.
- **"Introduction to College Teaching,"** certification issued by the University of Rochester's Center for Excellence in Teaching and Learning, 05/2022.
- **Teaching Gold Standard**, Rochester Institute of Technology, 08/2021, 08/2022, and 08/2023.
- **Phi Beta Kappa** member, 05/2020–05/2024.
- **Joseph Wilson "Change" Scholar** ($24,000/year scholarship awarded to students who have a significant impact on the campus community), 08/2016–05/2020.
- **Hackerrank Gold Badge in Problem Solving (Algorithms and Data Structures)**, 07/2019.
- **UR Ventures Fund**, 05/2019–08/2019.
- **University of Rochester REACH Funding**, 05/2017–08/2017, 05/2018–08/2018, and 05/2019–08/2019.
- **Clinton Global Initiative University Codeathon**, third place, 09/2017.

REFEREED JOURNAL PUBLICATIONS

1. **Search versus Search for Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, Theory of Computing Systems, V. 70, Article 44, 2026.
2. **Defying Gravity and Gadget Numerosity: The Complexity of the Hanano Puzzle and Beyond**, M. Chavrimootoo, Information Processing Letters, V. 187, Article 106520, 2025.
3. **Separating and Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, Journal of Artificial Intelligence Research, V. 81, pp. 71–116, 2024.

PUBLICATIONS IN PROCEEDINGS OF SELECTIVE CONFERENCES

4. **Axiomatic Tools for Separating Electoral Control Types, with Applications to Concrete Systems** M. Chavrimootoo, I. Clingerman, E. Ferland, E. Gibson, L. Hemaspaandra, Q. Luu, D. Narvaez, and Y. Wang, *Proceedings of the 9th International Conference on Algorithmic Decision Theory*, Springer–Verlag Lecture Notes in Artificial Intelligence, November 2026. To appear.

5. **Approximating Electoral Control Problems** H.V. Bui, M. Chavrimootoo, K. Le, and S. Nguyen, *Proceedings of the 9th International Conference on Algorithmic Decision Theory*, Springer–Verlag Lecture Notes in Artificial Intelligence, November 2026. To appear.
6. **The Cost of Failure: On The Complexity of Recampaigning under Fixed Districts** M. Chavrimootoo and A. Jeansonne, *Proceedings of the 9th International Conference on Algorithmic Decision Theory*, Springer–Verlag Lecture Notes in Artificial Intelligence, November 2026. To appear.
7. **Carrying is Hard: Exploring the Gap between Hardness for NP and PSPACE for the Hanano and Jelly no Puzzles** M. Chavrimootoo and J. Youn, *Proceedings of the 20th International Conference on Reachability Problems*, Springer–Verlag Lecture Notes in Computer Science, October 2026. To appear.
8. **Approximating Electoral Control Problems** (Extended Abstract), H. Bui, M. Chavrimootoo, K. Le, and S. Nguyen, *Proceedings of the 25th International Conference on Autonomous Agents and Multiagent Systems*, pp. 3347–3349, IFAAMAS, May 2026.
9. **Search versus Search for Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, *Proceedings of the 21st European Conference on Multi-Agent Systems*, pp. 217–236, Springer Lecture Notes in Computer Science #15685, June 2025.
10. **Defying Gravity and Gadget Numerosity: The Complexity of the Hanano Puzzle**, M. Chavrimootoo, *Proceedings of the 25th International Conference on Descriptional Complexity of Formal Systems*, pp. 35–50, Springer, June 2023.
11. **Separating and Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, *Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems*, pp. 1743–1751, IFAAMAS, May 2023.
12. **Search versus Search for Collapsing Electoral Control Types** (Extended Abstract), B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, *Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems*, pp. 2682–2684, IFAAMAS, May 2023.
13. **Separations and Collapses in Computational Social Choice** (Doctoral Consortium), M. Chavrimootoo, *Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems*, pp. 3026–3028, IFAAMAS, May 2023.

TECHNICAL REPORTS

14. **Linked Fates: How Small of an Ambiguity Increase Can Make the Difference Between Equaling and Separating from P?** B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and M. Welsh. ACM Computing Research Repository Technical Report arXiv:2606.20399 [cs.CC], June 2026.
15. **Axiomatic Tools for Separating Electoral Control Types, with Applications to Concrete Systems** M. Chavrimootoo, I. Clingerman, E. Ferland, E. Gibson, L. Hemaspaandra, Q. Luu, D. Narváez, and Y. Wang, ACM Computing Research Repository Technical Report arXiv:2606.12039 [cs.GT], June 2026.

16. **The Cost of Failure: On The Complexity of Recampaigning under Fixed Districts** M. Chavrimootoo and A. Jeansonne, ACM Computing Research Repository Technical Report arXiv:2601.13246 [cs.GT], January 2026.
17. **Carrying is Hard: Exploring the Gap between Hardness for NP and PSPACE for the Hanano and Jelly no Puzzles** M. Chavrimootoo and J. Youn, ACM Computing Research Repository Technical Report arXiv:2601.08057 [cs.CC], January 2026.
18. **Approximating Electoral Control Problems** H. Bui, M. Chavrimootoo, K. Le, and S. Nguyen, ACM Computing Research Repository Technical Report arXiv: 2509.19279 [cs.GT], September 2025.
19. **A Brief Note on a Recent Claim About NP-Hard Problems and BQP** M. Chavrimootoo, ACM Computing Research Repository Technical Report arXiv:2406.08495 [cs.CC], April 2024. *(Invited.)*
20. **On Czerwinski's "P $\neq$ NP Relative to a P-Complete Oracle,"** M. Chavrimootoo, T. Le, M. Reidy, and E. Smith, ACM Computing Research Repository Technical Report arXiv:2312.04395 [cs.CC], December 2023.
21. **Evaluating the Claims of "SAT Requires Exhaustive Search,"** M. Chavrimootoo, Y. He, M. Kotler-Berkowitz, H. Liuson, and Z. Nie, ACM Computing Research Repository Technical Report arXiv:2312.02071 [cs.CC], December 2023.
22. **Search versus Search for Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, ACM Computing Research Repository Technical Report arXiv:2207.03049 [cs.GT], July 2022, revised February 2024.
23. **Defying Gravity: The Complexity of the Hanano Puzzle**, M. Chavrimootoo, ACM Computing Research Repository Technical Report arXiv:2205.03400 [cs.CC], May 2022, revised April 2023.
24. **Separating and Collapsing Electoral Control Types**, B. Carleton, M. Chavrimootoo, L. Hemaspaandra, D. Narváez, C. Taliancich, and H. Welles, ACM Computing Research Repository Technical Report arXiv:2207.00710 [cs.MA], July 2022, revised May 2024.
25. **A Critique of Sopin's "PH = PSPACE,"** M. Chavrimootoo, I. Clingerman, and Q. Luu, ACM Computing Research Repository Technical Report arXiv:2301.03487 [cs.CC], January 2023.
26. **A Closer Look at Some Recent Proof Compression-Related Claims**, M. Chavrimootoo, E. Ferland, E. Gibson, and A. Wilson, ACM Computing Research Repository Technical Report arXiv:2212.12150 [cs.CC], December 2022.
27. **A Critique of Kumar's "Necessary and Sufficient Condition for Satisfiability of a Boolean Formula in CNF and Its Implications on P versus NP Problem,"** M. Chavrimootoo and H. Welles, ACM Computing Research Repository Technical Report arXiv:2112.06062 [cs.CC], December 2021.
28. **A Critique of Keum-Bae Cho's Proof that P $\subsetneq$ NP**, B. Carleton, M. Chavrimootoo, and C. Taliancich, ACM Computing Research Repository Technical Report arXiv: 2104.01736 [cs.CC], April 2021.

RECENT TALKS, PANELS, AND POSTERS

- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2026):** Poster on "Approximating Electoral Control Types," Paphos, Cyprus, 05/2026.
- **Guest on "Le Mag"**: Interviewed by the Mauritius Broadcasting Corporation, 08/2025. Full interview (in Mauritian Creole): `https://www.youtube.com/watch?v=MpA2hdXX7g4`. *(Invited.)*
- **Guest Lecture:** "Exploring Relationships Between Electoral Control Problems," CSC 285/485 (Gems of Algorithms and Elections), University of Rochester, delivered remotely, 03/2025. *(Invited.)*
- **Denison Scientific Association:** "Electoral Control Attacks: Their Interrelations and Complexities," Denison University, 02/2025.
- **COMSOC Meetings:** "Separations and Collapses in Computational Social Choice and Complexity Theory," University of Rochester, delivered remotely, 02/2025. *(Invited.)*
- **Career Exploration Summit:** Talk given to undergraduate students discussing the journey leading to my current role, and providing advice, University of Rochester, Rochester, NY, 01/2025. *(Invited.)*
- **Guest Talk:** "Separations and Collapses in Computational Social Choice and Complexity Theory," CSC 395 (Technical Communications), Denison University, OH, 11/2024.
- **European Conference on Multi-Agent Systems (EUMAS 2024):** "Search versus Search for Collapsing Electoral Control Types," University College Dublin, Dublin, Ireland, 08/2024.
- **Guest Lecture:** "Separations and Collapses in Computational Social Choice and Complexity Theory," CSC 200/200H (Computer Science Research Seminar), University of Rochester, NY, 03/2024. *(Invited.)*
- **TheoryCanal Seminar:** "Separations and Collapses in Computational Social Choice," Rochester Institute of Technology, NY, 10/2023.
- **Graduate Research Day:** "Search versus Search for Collapsing Electoral Control Types," University of Rochester, NY, 10/2023.
- **Three Minute Thesis (3MT) Final:** "Two Stones One Bird: Uncovering Surprising Relationships Among Electoral Attacks," University of Rochester, NY, 10/2023.
- **Graduate Student Orientation:** Panelist on the graduate student experience and how to succeed, University of Rochester, NY, 08/2023. *(Invited.)*
- **International Conference on the Descriptional Complexity of Formal Systems (DCFS 2023):** Talk on "Defying Gravity and Gadget Numerosity: The Complexity of the Hanano Puzzle," University of Potsdam, Germany, 07/2023.
- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Talk on "Separating and Collapsing Electoral Control Types," ExCeL London, England, 06/2023.
- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Poster on "Search versus Search for Collapsing Electoral Control Types," ExCeL London, England, 06/2023.

- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Short Talk on "Separations and Collapses in Computational Social Choice," ExCeL London, England, 05/2023.
- **TheoryCanal Seminar:** "Separating and Collapsing Electoral Control Types," Rochester Institute of Technology, NY, 03/2023.
- **COMSOC Meetings:** "Defying Gravity: The Complexity of the Hanano Puzzle," University of Rochester, NY, 11/2022.
- **Graduate Research Day:** "Separating and Collapsing Electoral Control Types," University of Rochester, NY, 10/2022. *Won "Best Research Talk" award.*
- **Department of Computer Science:** Poster on "Separating and Collapsing Electoral Control Types," University of Rochester, NY, 09/2022.
- **TheoryCanal Seminar:** "Defying Gravity: On the Complexity of the Hanano Puzzle," Rochester Institute of Technology, NY, 09/2022.
- **Computer Science Undergraduate Council:** Panelist for "Graduate Education in Computer Science," University of Rochester, NY, 04/2021. *(Invited.)*

TEACHING EXPERIENCE

- **Courses Taught:**
  Denison University: Algorithms, Computation, and Elections (Fall 2025); Analysis Design and Analysis (Spring 2025, Fall 2025, Spring 2026); Data Structures (Fall 2024 and Spring 2025); Introduction to Computer Science (Fall 2026); Markets, Polls, and Social Networks (Fall 2024 and Spring 2026); Seminar: Programming Problems (Fall 2026).
  University of Rochester: Design and Analysis of Efficient Algorithms (Summers of 2021 and 2022); Computer Models and Limitations (Summers of 2021–2023).
  Rochester Institute of Technology: Algorithms (Summers of 2021–2023); Introduction to Cryptography (Summer 2021).
- **Courses TAed at University of Rochester:** Computation and Formal Systems (Spring 2024); Computational Complexity (Spring 2022); Computer Models and Limitations (Spring 2020, Spring 2021, and Spring 2022); Design and Analysis of Efficient Algorithms (Fall 2021); Collaborative Programming and Software Design (Fall 2019); Programming Language Design and Implementation (Fall 2018); Calculus II (Spring 2018); Computer Organization (Spring 2018).

THESES ADVISED

- Le, Tran Duy Anh, "Hardness of Bribery and Control under Voting-Rule Uncertainty," Undergraduate Honors Thesis, University of Rochester, Spring 2025.

PROFESSIONAL ACTIVITIES

- **Reviewer/Referee Roles (missing dates are intentionally omitted):**
  Conference Program Committee: European Conference on Artificial Intelligence (ECAI 2025).
  Conference Referee: the International Symposium on Mathematical Foundations of Computer Science (MFCS 2024); the International Conference and Workshops on Algorithms

and Computation (WALCOM 2025); Computability in Europe (CiE 2025); International Conference on Fun with Algorithms (FUN 2026).
Journal Referee: Computational Complexity (Springer Nature Switzerland AG); Theoretical Computer Science (Elsevier); Discrete Mathematics & Theoretical Computer Science (Episciences); International Computer Games Association (Sage); Autonomous Agents and Multi-Agent Systems (Springer).

- **Professional Memberships:** Affiliate for the Institute for Mathematics and Democracy, ACM, ACM-SIGACT, ACM-SIGecom, EATCS, and CCF.

SELECT DEPARTMENT & UNIVERSITY ACTIVITIES

- **Reviewer**, Anderson Science Scholarship, Denison University, Spring 2026.
- **Seminar Organizer**, Denison Scientific Association, Denison University, 08/2025-06/2026.
- **Coach**, International Collegiate Programming Contest (ICPC), Denison University, 11/2025.
- **Facilitator and Guest Speaker**, Career Exploration Summit at the University of Rochester, Rochester, NY, 01/2025.
- **Judge**, Denison debate tournament, Denison University, 09/2024.
- **Graduate Student Representative**, Faculty Recruitment Committee for the Department of Computer Science at the University of Rochester, 01/2023–05/2023.
- **Graduate TA Trainer**, Departments of Computer Science and Data Science, University of Rochester, NY, 07/2022–08/2022.
- **Mentor**, Women in Computing/Minorities in Computing at the University of Rochester, 08/2019–05/2020.
- **Reviewer**, Conference Travel Grant funded by the Graduate Student Association at the University of Rochester (dates omitted).

NONACADEMIC SERVICE

- **Care Provider and Trainer**, Students Offering Support (SOS), 08/2017–05/2024.
- **Planning and Operations Committee, Senior Advisor, Secretary, Recruitment Chair, Alumni Member**, Minority Male Leadership Association, 08/2017–05/2024.
- **Cochair of the Student Appeal Committee**, Newman Catholic Community, 01/2022–05/2022.
- **Advisor**, Student Executive Board of the Newman Catholic Community, 08/2021–05/2022.
- **Conference Cochair and Founding Member**, Rochester Africa Business Conference, 12/2017–05/2019.
- **Communications Chair**, Kwetu African Entrepreneurship, 05/2017–02/2018.
- **Project Coordinator**, School Relief Nepal, 03/2017–07/2017.
- **Instructor and Project Coordinator**, Experiential Learning Initiative Africa (Mauritius), 12/2014–08/2016.

LANGUAGE COMPETENCIES

- Written and spoken fluency in: English, French, and Mauritian Creole.
- Limited proficiency: Spanish.