

Curriculum Vitae  
**MICHAEL C. CHAVRIMOOTO**<sup>1</sup>  
Ph.D. Candidate in Computer Science  
December 5, 2023

*Department of Computer Science  
University of Rochester  
Rochester, NY 14627 USA*

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## RESEARCH AREAS

**Computational social choice (including voting/preference aggregation and hardness of electoral attacks)**, hardness of games, algorithmic game theory, and computational complexity theory.

## EDUCATION

- **University of Rochester**  
Ph.D. in Computer Science, anticipated May 2024.  
M.S. in Computer Science, May 2021.  
B.S. in Computer Science and B.A. in Political Science, May 2020, *cum laude*, highest distinction in computer science, on the Dean's list every semester.

## RESEARCH EXPERIENCE

- **Graduate Research Assistant in Computational Social Choice and Complexity Theory**, University of Rochester, August 2020–present.
- **Research Assistant for Algorithms in Parallel and Scalable Memory Allocation in Rust**, University of Rochester, May 2019–July 2020.

## PROFESSIONAL EXPERIENCE

- **Adjunct Faculty**, Rochester Institute of Technology (NY), Summer 2023.  
Course taught: Analysis of Algorithms.
- **Adjunct Instructor**, University of Rochester (NY), Summer 2023.  
Courses taught: Analysis and Design of Efficient Algorithms, and Computer Models and Limitations (aka Theory of Computation).
- **Adjunct Faculty**, Rochester Institute of Technology (NY), Summer 2022.  
Course taught: Analysis of Algorithms.
- **Adjunct Instructor**, University of Rochester (NY), Summer 2022.  
Courses taught: Analysis and Design of Efficient Algorithms, and Computer Models and Limitations (aka Theory of Computation).
- **Adjunct Faculty**, Rochester Institute of Technology (NY), Summer 2021.  
Courses taught: Analysis of Algorithms and Introduction to Cryptography.

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- **Adjunct Instructor**, University of Rochester (NY), Summer 2021.  
Course taught: Computer Models and Limitations (aka Theory of Computation).
- **Fullstack Web Developer**, Warner School of Education (Rochester, NY), January 2017–May 2019.
- **Cofounder and Lead Developer**, Purewebmasters Ltd (Mauritius), October 2014–December 2016.

### TEACHING ASSISTANTSHIPS

- **Computational Complexity**, University of Rochester, Spring 2022.
- **Computer Models and Limitations** (aka Theory of Computation), University of Rochester, Springs of 2020–2022.
- **Design and Analysis of Efficient Algorithms**, University of Rochester, Fall 2021.
- **Collaborative Programming and Software Design**, University of Rochester, Fall 2019.
- **Programming Language Design and Implementation**, University of Rochester, Fall 2018.
- **Calculus II**, University of Rochester, Fall 2018.
- **Computer Organization**, University of Rochester, Spring 2018.

### HONORS, AWARDS, CERTIFICATIONS, AND FUNDING

- **Three Minute Thesis (3MT) Finalist**, University of Rochester, October 2023.
- Recipient of a \$1,040 **AAMAS Student Scholarship**, May 2023.
- **Best Research Talk Award**, Graduate Research Day, University of Rochester, October 2022.
- **Edward Peck Curtis Award for Excellence in Teaching by a Graduate Student**, University of Rochester, May 2022.
- **“Introduction to College Teaching,”** certification issued by the University of Rochester’s Center for Excellence in Teaching and Learning, Spring 2022.
- **Teaching Gold Standard**, Rochester Institute of Technology, Summers of 2021–2023.
- **Phi Beta Kappa** member, since May 2020.
- **Joseph Wilson “Change” Scholar** (\$24,000/year scholarship awarded to students who have a significant impact on the campus community), August 2016–May 2020.
- **Hackerrank Gold Badge in Problem Solving (Algorithms and Data Structures)**, July 2019.
- **UR Ventures Fund**, Summer 2019.
- **University of Rochester REACH Funding**, Summers of 2017–2019.

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**PUBLICATIONS IN PROCEEDINGS OF SELECTIVE CONFERENCES**

1. **Defying Gravity and Gadget Numerosity: The Complexity of the Hanano Puzzle**, M. Chavrimootoo, *Proceedings of the 25th International Conference on Descriptive Complexity of Formal Systems*, pp. 35–50, Springer, June 2023.
2. **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.
3. **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.
4. **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**

5. **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.
6. **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 May 2023.
7. **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.
8. **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 February 2023.
9. **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.
10. **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.
11. **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.

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12. **A Critique of Keum-Bae Cho’s Proof that  $P \subsetneq NP$** , B. Carleton, M. Chavrimootoo, and C. Taliencich, ACM Computing Research Repository Technical Report arXiv:2104.01736 [cs.CC], April 2021.

### RECENT TALKS, PANELS, AND POSTERS

- **TheoryCanal Seminar:** “Separations and Collapses in Computational Social Choice,” Rochester Institute of Technology, NY, October 2023. (*Invited.*)
- **Graduate Research Day:** “Search versus Search for Collapsing Electoral Control Types,” University of Rochester, NY, October 2023.
- **Three Minute Thesis (3MT) Final:** “Two Stones One Bird: Uncovering Surprising Relationships Among Electoral Attacks,” University of Rochester, NY, October 2023.
- **Graduate Student Orientation:** Panelist on the graduate student experience and how to succeed, University of Rochester, NY, August 2023. (*Invited.*)
- **International Conference on the Descriptive Complexity of Formal Systems (DCFS 2023):** Talk on “Defying Gravity and Gadget Numerosity: The Complexity of the Hanano Puzzle,” University of Potsdam, Germany, July 2023.
- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Talk on “Separating and Collapsing Electoral Control Types,” ExCeL London, England, June 2023.
- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Poster on “Search versus Search for Collapsing Electoral Control Types,” ExCeL London, England, June 2023.
- **International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023):** Short Talk on “Separations and Collapses in Computational Social Choice,” ExCeL London, England, May 2023.
- **TheoryCanal Seminar:** “Separating and Collapsing Electoral Control Types,” Rochester Institute of Technology, NY, March 2023. (*Invited.*)
- **Graduate Research Day:** “Separating and Collapsing Electoral Control Types,” University of Rochester, NY, October 2022. *Won “Best Research Talk” award.*
- **Department of Computer Science:** Poster on “Separating and Collapsing Electoral Control Types,” University of Rochester, NY, September 2022.
- **TheoryCanal Seminar:** “Defying Gravity: On the Complexity of the Hanano Puzzle,” Rochester Institute of Technology, NY, September 2022. (*Invited.*)
- **Computer Science Undergraduate Council:** Panelist for “Graduate Education in Computer Science,” University of Rochester, NY, April 2021. (*Invited.*)

### ACADEMIC SERVICE

- **Graduate Student Representative,** Faculty Recruitment Committee for the Department of Computer Science at the University of Rochester, 2023.
- **Graduate TA Trainer,** Departments of Computer Science and Data Science, University of Rochester, NY, August 2022.

- **Mentor**, Women in Computing/Minorities in Computing at the University of Rochester, August 2019–May 2020.
- **Reviewer**: Conference Travel Grant funded by the Graduate Student Association at the University of Rochester (dates omitted).
- **Journal Refereeing**: Computational Complexity, published by Springer Nature Switzerland AG (dates omitted).

#### NONACADEMIC SERVICE

- Students Offering Support (SOS): **Care Provider and Trainer**, August 2017–present.
- Minority Male Leadership Association: **Planning and Operations Committee, Senior Advisor, Secretary, Recruitment Chair, Alumni Member**, August 2017–present.
- Newman Catholic Community: **Cochair of the Student Appeal Committee**, January 2022–May 2022.
- Student Executive Board of the Newman Catholic Community: **Advisor**, August 2021–May 2022.
- Rochester Africa Business Conference: **Conference Cochair and Founding Member**, December 2017–May 2019.
- Kwetu African Entrepreneurship: **Communications Chair**, May 2017–February 2018.
- School Relief Nepal: **Project Coordinator**, March 2017–July 2017.
- Experiential Learning Initiative Africa (Mauritius): **Instructor and Project Coordinator**, December 2014–August 2016.

#### LANGUAGE COMPETENCIES

Fluent in (written and spoken) English, French, and Mauritian Creole.