# Jason Hemann

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## EDUCATION

| | | |
|---|---|---|
| 2020 | **PhD in Computer Science**<br>**Minor:** Logic<br>**Advisor:** Dan Friedman | Indiana University |
| 2012 | **MS in Computer Science**<br>**Advisor:** Dan Friedman | Indiana University |
| 2007 | **BS in Computer Science, Philosophy** cum laude<br>**Advisor:** Paul Myers | Trinity University |
| 2007 | **BA in History** cum laude | Trinity University |

## POSITIONS

| | | |
|---|---|---|
| 2021–2022 | **Associate Teaching Professor**<br>CS Theory, Programming Langs, | Northeastern University |
| 2020 | **Lecturer**<br>SwDev, Logic & Comp, CLP | Northeastern University |
| 2020 | **Part-time Lecturer**<br>SwDev, OO Design | Northeastern University |
| 2019 | **Visiting Scholar** | Northeastern University |
| 2018–2019 | **Clinical Instructor**<br>Programming Langs, CS II, SwDev | Northeastern University |
| 2017–2018 | **Visiting Faculty**<br>Programming Langs | Rose-Hulman Inst. Tech. |
| 2012–2017 | **Associate Instructor**<br>Programming Langs, Programming Langs (Graduate) | Indiana University |
| 2010–2012 | **Lab Instructor**,<br>Discrete Math for CS, CS Theory, CS for Non-Majors | Indiana University |

## OTHER TEACHING

| | | |
|---|---|---|
| June 2014 | **Instructor**<br>miniKanren Summer School | University of Utah |
| June 2013 | **Instructor**, Foundations in Science and Mathematics<br>Intro to CS | Indiana University |

# PROFESSIONAL SERVICE

2020–2022   PLMW (Advisor)
2019–2022   miniKanren Workshop Steering Committee
2020   miniKanren Workshop (General Chair)
2020   Scheme Workshop (Publicity Chair)
2019   miniKanren Workshop (Program Committee)
2019   Scheme Workshop (Program Committee)
2016   Scheme Workshop (Bursar)
2015   ICFP (Student Volunteer)
2014   Scheme Workshop (General Chair, Publicity Chair)

## Reviewing

*Programming*, ICFP, CPP, miniKanren Workshop, Scheme Workshop, ML Workshop

### *STEM Education Outreach*

2021–2022   **Women's Community of Code (WCoC)**   Northeastern University
- Program Design (2021–2022)

2013–2017   **Foundations in Science and Mathematics**   Indiana University
- Grant Writing Team (2015–2017)
- Program Administration (2015–2017)
- Computer Science Program Lead (2014–2017)
- Computer Science Course Instructor (2013)

# AWARDS & RECOGNITIONS

## Travel Awards

2017   IJCAI-17 Travel Grant
2017   CP/ICLP/SAT DP Travel Award
2016   PLMW Travel Award for SPLASH 2016
2016   SIGPLAN PAC Travel Award for SPLASH 2016
2016   Scheme 2016 Travel Scholarship
2016   SIGPLAN PAC Travel Award for ICFP 2016
2015   SIGPLAN PAC Travel Award for ICFP 2015
2015   NSF Travel Award for ECOOP 2015
2014   FLoC Travel Award for Vienna Summer of Logic
2014   ICLP Summer School Travel Award
2013   Scheme 2013 Travel Scholarship
2013   SIGPLAN PAC Travel Award for ICFP 2013
2012   NASSLLI 2012 Travel Award
2012   OPLSS Housing Grant
2012   NECSS 2012 Student Sponsorship

## Other Awards

2020   IU Certificate in Logic
2017   Women's Philanthropy Leadership Council Award (FSM)
2015   SOIC Associate Instructor of the Year
2014   IU East Online Teaching Certificate Program (Level 1)

# PUBLICATIONS

### *Books & Dissertations*

[BD1]   **Jason Hemann**. "Constraint microKanren in the CLP Scheme." PhD thesis. Indiana University, Bloomington, 01/2020. URL: `https://scholarworks.iu.edu/dspace/handle/2022/25183`.

[BD2]   Daniel P. Friedman, William E. Byrd, Oleg Kiselyov, and **Jason Hemann**. *The Reasoned Schemer, 2nd Edition*. The MIT Press, 01/2018. URL: `http://mitpress.mit.edu/books/reasoned-schemer-0`.

### *Journal & Selective Conference Papers*

[JC1]   Daniel Schwab, Logan Cole, Karna Desai, **Jason Hemann**, Kate Hummels, and Adam Maltese. "A Summer Stem Outreach Program Run By Graduate Students: Successes, Challenges, And Recommendations For Implementation." In: *Journal of Research in STEM Education* 4 (2 12/2018), pp. 117–129.

[JC2]   **Jason Hemann**, Daniel P. Friedman, William E. Byrd, and Matthew Might. "A Small Embedding of Logic Programming with a Simple Complete Search." In: *Proc. of DLS'16*. Amsterdam, Netherlands: ACM, 11/2016. URL: `http://dx.doi.org/10.1145/2989225.2989230`.

### *Workshop Papers & Technical Reports*

[W1]   **Jason Hemann** and Dmitri Boulytchev, eds. *Proceedings of the 2020 Workshop on miniKanren and Relational Programming, Northeastern University Technical Report NU-CCIS-2021-001*. Online: Department of Computer Science, Northeastern University, 08/2021. URL: `http://hdl.handle.net/2047/D20413639`.

[W2]   **Jason Hemann** and Daniel P. Friedman. "Some Novel miniKanren Synthesis Tasks." In: *Proc. of miniKanren '20*. Digital. Online, 08/2020. URL: `http://hdl.handle.net/2047/D20413639`.

[W3]   **Jason Hemann** and Daniel P. Friedman. "A Framework for Extending microKanren with Constraints." In: *Joint Proc of WLP'15/'16/WFLP'16 29th*. Ed. by Sibylle Schwarz and Janis Voigtländer. Vol. 234. EPTCS. Open Publishing Association, 01/2017, pp. 135–149. URL: `eptcs.web.cse.unsw.edu.au/content.cgi?WFLP2016`.

[W4]   **Jason Hemann** and Daniel P. Friedman. "Deriving Pure, Functional One-Pass Operations for Processing Tail-Aligned Lists." In: *Proc. of Scheme '16*. Nara, Japan, 09/2016. URL: `http://scheme2016.snow-fort.org/static/scheme16-paper6.pdf`.

[W5]   **Jason Hemann** and John Clements, eds. *Proceedings of the 2014 Workshop on Scheme and Functional Programming, Indiana University Technical Report TR718*. Washington, D.C., USA: Department of Computer Science, Indiana University, 09/2015. URL: `http://cs.indiana.edu/pub/techreports/TR718.pdf`.

[W6]   **Jason Hemann** and Daniel P. Friedman. "A Framework for Extending microKanren with Constraints." In: *Proc. of Scheme '15, Northeastern University Technical Report NU-CCIS-2016-001*. Ed. by Andrew W. Keep and Ryan Culpepper. 09/2015. URL: `http://hdl.handle.net/2047/D20213213`.

[W7]   **Jason Hemann**, Cameron Swords, and Lawrence S Moss. "Two Advances in the Implementations of Extended Syllogistic Logics." In: *Joint Proc. of NLPAR'15/LNMR'15*. Ed. by Marcello Balduccini, Alessandra Mileo, Ekaterina Ovchinnikova, Alessandra Russo, and Peter Schüller. Lexington, Kentucky, USA, 09/2015, pp. 1–15. URL: `http://peterschueller.com/pub/2015/nlpar2015-proceedings.pdf`.

[W8]   Daniel Brady, **Jason Hemann**, and Daniel P. Friedman. "Little Languages for Relational Programming." In: *Proc of Scheme '14, Indiana University Technical Report TR718*. Washington, D.C., USA, 09/2015, pp. 54–64. URL: `http://cs.indiana.edu/pub/techreports/TR718.pdf`.

[W9]   **Jason Hemann** and Daniel P. Friedman. "$\mu$Kanren: A Minimal Functional Core for Relational Programming." In: *Proc. of Scheme '13*. Digital. Alexandria, Virginia, USA, 11/2013. URL: `schemeworkshop.org/2013/papers/HemannMuKanren2013.pdf`.

[W10] **Jason Hemann** and Daniel P. Friedman. "$\lambda^*$: Beyond Currying." In: *Proc. of Scheme '13*. Digital. Alexandria, Virginia, USA, 11/2013. URL: `schemeworkshop.org/2013/papers/HemannCurrying2013.pdf`.

[W11] **Jason Hemann** and Eric Holk. "Visualizing the Turing Tarpit." In: *Proc. of FARM '13*. FARM '13. Boston, Massachusetts, USA: ACM, 2013, pp. 71–76. URL: `doi.acm.org/10.1145/2505341.2505348`.

[W12] **Jason Hemann**, Fatma Mili, and Paul Myers. "Synchronized Energy Efficient Clustering of Wireless Sensor Networks." In: *Proc. of NCUR 2007*. San Rafael, California, 04/2007. URL: `http://ncurproceedings.org/ojs/`.

### Presentations & Demonstrations

[PD1] Daniel P. Friedman and **Jason Hemann**. "Implementing a microKanren." In: *CodeMesh 2016*. London, England, 11/2016. URL: `http://youtube.com/watch?v=0FwIewHC3o`.

[PD2] Daniel P. Friedman and **Jason Hemann**. "From Functions To Relations in miniKanren." In: *Øredev 2015*. Malmö, Sweden, 11/2015. URL: `http://vimeo.com/144710533`.

[PD3] Daniel P. Friedman and **Jason Hemann**. "Generating a Quine." In: *Midwest PL Summit '15*. West Lafayette, Indiana, USA, 12/2015.

[PD4] Daniel P. Friedman and **Jason Hemann**. "How to be a Good Host: miniKanren as a Case Study." In: *Curry On 2015*. Prague, Czech Republic, 07/2015. URL: `http://youtube.com/watch?v=b9C3r3dQnNY`.

[PD5] Daniel P. Friedman and **Jason Hemann**. "Rapidly Rolling a Relational DSL." In: *Øredev 2015*. Malmö, Sweden, 11/2015. URL: `http://vimeo.com/144988186`.

[PD6] Daniel P. Friedman and **Jason Hemann**. "Roll Your Own Relational DSL: A Logic Programming Language in Less than 40 Lines." In: *Lambda Jam 2014*. Chicago, Illinois, USA, 07/2014.

[PD7] Daniel P. Friedman and **Jason Hemann**. "Write the Other Half of Your Program: From Functional to Logic." In: *Strange Loop 2014*. St. Louis, Missouri, USA, 09/2014. URL: `http://youtube.com/watch?v=RG9fBbQrVOM`.

[PD8] Daniel P. Friedman and **Jason Hemann**. "It's Only Quine Time." In: *Programming Languages Fest*. Bloomington, Indiana, USA, 10/2013. URL: `http://web.archive.org/web/20140113225905/lambda.soic.indiana.edu/programming-languages-fest`.

[PD9] Daniel P. Friedman and **Jason Hemann**. "The Art of Several Interpreters, Quickly." In: *Lambda Jam 2013*. Chicago, Illinois, USA, 07/2013.

[PD10] **Jason Hemann**. "A Typed Trivalent Logic to Resolve Category Mistakes." In: *North Georgia Student Philosophy Conference*. Kennesaw, Georgia, USA, 04/2007.

### Doctoral Consortia

[DC1] **Jason Hemann**, Daniel P. Friedman, William E. Byrd, and Matt Might. "A Simple Complete Search for Logic Programming." In: *Technical Communications of the 33rd International Conference on Logic Programming (ICLP 2017)*. Ed. by Ricardo Rocha, Tran Cao Son, Christopher Mears, and Neda Saeedloei. Vol. 58. Melbourne, Australia: OASIcs, 2018, 14:1–14:8. URL: `dagstuhl.de/dagpub/978-3-95977-058-3`.

### Invited Talks

[T1] **Jason Hemann**. "Implementing a Kanren From the Ground Up." NUSHackers @ National University of Singapore. 02/2021. URL: `https://www.nushackers.org/2021/01/friday-hacks-199/`.

### Posters

[Po1] **Jason Hemann**, Daniel P. Friedman, William E. Byrd, and Matt Might. *A Small Embedding of Logic Programming with a Simple Complete Search*. Poster presented at SPLASH '16, Nov. 2, 2016, Amsterdam, The Netherlands. 2016.

[Po2]  Karna Desai, Jing Yang, and **Jason Hemann**. *Foundations in Science and Mathematics Program for Middle School and High School Students.* Poster presented at AAS Meeting #227, Jan. 4-8, 2016, Kissimmee, Florida, USA. 2016. URL: http://adsabs.harvard.edu/abs/2016AAS...22724612D.

### Panels

[Pa1]  Deyaaeldeen Almahallawi, **Jason Hemann**, Rin Metcalf, and Fatemeh Sharifi. *Associate Instructor Panel.* Panel Discussion IU SOIC Graduate Recruiting, Feb. 24, 2017, Bloomington, Indiana, USA. 2017.

[Pa2]  Charles Pope and **Jason Hemann**. *Associate Instructor Panel.* Panel Discussion at IU SOIC Associate Instructor Training, Sept. 11, 2015, Bloomington, Indiana, USA. 2015.

### Interviews

[I1]  Aditi Peyush. *Classroom Q & A: Dr. Jason Hemann and Custom Programming.* 01/2021. URL: https://www.khoury.northeastern.edu/classroom-qa-dr-jason-hemann-and-custom-programming/.

[I2]  Eric Normand. *CodeMesh 2016 Talk Interview.* Interview with Eric Normand of PurelyFunctional, Oct. 12, 2016. 2016. URL: http://purelyfunctional.tv/speaker-interview/jason-hemann-code-mesh-2016-interview/.

[I3]  Eric Normand. *Pre-conj Scheme '14 Interview.* Interview with Eric Normand of LispCast, Nov. 17, 2014. 2014. URL: http://lispcast.com/pre-conj-scheme-workshop.

### References

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