Chudamani Poudyal, Ph.D., ASA

Curriculum Vitae

Department of Mathematical Sciences	Email:	cpoudyal@uwm.edu
University of Wisconsin–Milwaukee	Phone:	(414) 251-5825
Milwaukee, WI 53211	Homepage:	At this link!

Research Interests

- Actuarial Data Science
- Predictive Analytics
- Statistical Learning
- Data Mining
- Robust & Computational Statistics
- Stochastic Optimization

Education

- **Ph.D., Mathematics** (2013 – 2018), University of Wisconsin-Milwaukee.
  - Concentrations: Actuarial Science; Statistics.
  - Dissertation Title: *Robust Estimation of Parametric Models for Insurance Loss Data.*
  - Advisor: Professor Vytaras Brazauskas.
- **M.S., Mathematics** (2011 – 2013), New Mexico State University
  - Concentration: Algebra.
  - Completed Ph.D. qualifying exam in Algebra, Analysis, and Topology.
- **M.A., Mathematics** (2007 – 2009), Tribhuvan University, Nepal
  - Thesis Title: Bottleneck Just-in-Time Sequencing for Mixed-Model Production Systems.
  - Advisor: Professor Tanka Nath Dhamala.
- **B.A., Mathematics** (2004 – 2005), Tribhuvan University, Nepal
- **B.Ed., Mathematics Education** (2001 – 2004), Tribhuvan University, Nepal

Professional Certification/Designation

ASA – Associate of the Society of Actuaries, 2023-present.

Appointments

- **Assistant Professor** (Fall 2018 – present)
  - Tenure-track (Fall 2023 – present): Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI.
  - Visiting (Fall 2021 – Summer 2023, with Graduate Faculty status which includes the authority to chair graduate dissertation committees): Department of Statistics and Data Science, University of Central Florida, Orlando, FL.

- Tenure-track (Fall 2018 – Summer 2021): Department of Mathematics, Tennessee Tech University, Cookeville, TN.

▶ **Actuarial Summer Intern** (Summer 2017), CUNA Mutual Group, Madison, WI.

▶ **Graduate Teaching Assistant** (Fall 2011 – Summer 2018)

- 2013 – 2018: University of Wisconsin-Milwaukee, Milwaukee, WI.
- 2011 – 2013: New Mexico State University, Las Cruces, NM.

▶ **Assistant Lecturer** (Fall 2007 – Spring 2009), Central Department of Mathematics, Tribhuvan University, Kathmandu, Nepal.

Publications

▶ Papers Published in Refereed Journals (* Indicates Corresponding Author)

[7] **Poudyal*, C.**, Zhao, Q., and Brazauskas, V. (2023). Method of winsorized moments for robust fitting of truncated and censored lognormal distributions, *North American Actuarial Journal*, 1–25. DOI: 10.1080/10920277.2023.2183869.

[6] **Poudyal, C.** and Brazauskas, V. (2023). Finite-Sample performance of the T- and W-estimators for the Pareto tail index under data truncation and censoring, *Journal of Statistical Computation and Simulation*, **93**(10), 1601–1621. DOI: 10.1080/00949655.2022.2146114.

[5] **Poudyal*, C.** and Brazauskas, V. (2022). Robust estimation of loss models for truncated and censored severity data, *Variance – The scientific journal of the Casualty Actuarial Society.* **15**(2), 1–20. Note: This paper was recommended as a "White Paper" by Global Association of Risk Professionals (GARP).

[4] **Poudyal, C.** (2021). Robust estimation of loss models for lognormal insurance payment severity data, *ASTIN Bulletin – The Journal of the International Actuarial Association*, **51**(2), 475–507. DOI: 10.1017/asb.2021.4. Note: This paper was recommended for 2022 Hachemeister Prize Announcement from the Casualty Actuarial Society.

[3] **Poudyal, C.** (2021). Truncated, censored, and actuarial payment–type moments for robust fitting of a single-parameter Pareto distribution, *Journal of Computational and Applied Mathematics,* **388**, 113310, 1–18. DOI: 10.1016/j.cam.2020.113310. Note: A part of this paper presented by the author won the **1st Place Prize (US$500.00)** among Student Presentation Competition, *52nd Actuarial Research Conference*, July 26–29, 2017. Atlanta, GA.

[2] Dhamala, T. N., Khadka, S. R., and **Poudyal, C.** (2011). Optimal bottleneck mixed-model just-in-time production sequences, *J. of Institute of Science and Technology*, **17**, 81–102. Tribhuvan University, Nepal.

[1] **Poudyal, C.** (2009). A concept on computational complexity theory, *Epsilon-Delta Yearly Mathematical Magazine*, **5**, 85–91. Tribhuvan University, Nepal.

▶ Papers Under Review

[2] **Poudyal, C.** (2024). Robust estimation of the tail index of a single parameter Pareto distribution from grouped data.

[1] Zhao, Q. and **Poudyal, C.** (2024). Credibility theory based on censoring.

▶ Preprints Profile

- ArXiv
- SSRN

▶ Working Papers (In Preparation)

[5] **Poudyal, C.** Robust and parametric estimation of generalized Pareto severity models.
[4] **Poudyal, C.** and Tang, L. Robust estimation of bivariate lognormal severity loss models.
[3] **Poudyal, C.** Robust method of truncated moments for estimating the parameters of location-scale family of distributions.
[2] **Poudyal, C.** Computationally efficient and robust contaminated loss distributions.
[1] **Poudyal, C.** Robust and efficient fitting of loglaplace distributions.

Talks and Presentations

▶ Invited Talks

8. *Core contents for data science in the era of AI*, NMS – ANMA Talk Series #9 – jointly organized by Nepal Mathematical Society and Association of Nepalese Mathematicians in America. December 8, 2023 (virtual).
7. *Let's follow the way we observe the data to estimate the parameters of claim severity distributions*, Midwest Actuarial Research Seminars – MARS, Purdue Actuarial Science Program, Department of Statistics, Purdue University, West Lafayette, IN. November 11, 2023.
6. *Fitting robust predictive models for insurance loss severity data*, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI. Spring 2023.
5. *Robust and efficient predictive models for actuarial claim severity data*, Department of Mathematics, The Ohio State University, Columbus, OH. Spring 2023.
4. *Contemporary perspective on actuarial and data science*, School of Mathematical Sciences, Tribhuvan University, Kathmandu, Nepal. August 4, 2022.
3. *Statistical insurance premium pricing models*, first speaker of the CDM-NMS Talk Series – jointly organized by Central Department of Mathematics, Tribhuvan University, Kathmandu, Nepal and Nepal Mathematical Society. Kathmandu, Nepal. August 3, 2022.
2. *Robust actuarial loss modeling for claim severity data*, Department of Statistics and Data Science, University of Central Florida, Orlando, FL. Spring 2021 (virtual).
1. *Robust estimation of loss models for lognormal insurance payment severity data*, Department of Mathematical Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI. Spring 2021 (a series of virtual presentations).

▶ Conference Presentations

8. Robust method of trimmed and winsorized moments for truncated and censored lognormal severity distributions, *58th Actuarial Research Conference* (ARC), Des Moines, IA. July 30 – August 2, 2023.
7. Robust method of threshold truncated and censored moments, *International Conference on Robust Statistics 2022* (ICORS 2022), University of Waterloo, Waterloo, Canada. July 5–10, 2022.
6. Fixed and random tail probabilistic robust parametric estimation methodology, *56th Actuarial Research Conference* (ARC). August 19–21, 2021 (virtual).

5. Robust loss modeling for claim severity data, *24th International Congress on Insurance: Mathematics and Economics (IME)*. July 5–9, 2021 (virtual).
4. Introduction to actuarial loss modeling, *International Conference on Analysis and its Applications* (ICAA_NEPAL_2021), Dhulikhel, Nepal. April 9–11, 2021 (virtual).
3. Estimating longormal insurance payment severity models, *55th Actuarial Research Conference* (ARC). August 10–12, 2020 (virtual).
2. T- and W-estimation for insurance loss severity models, *54th Actuarial Research Conference* (ARC), Indianapolis, IN. August 14–17, 2019.
1. T-estimation for insurance loss data, *52nd Actuarial Research Conference* (ARC), Atlanta, GA. July 26–29, 2017.

Professional Activities

▶ Referee for the Following Journals:

- ASTIN Bulletin
- Decision
- Insurance: Mathematics and Economics
- Journal of Statistical Software
- Metrika
- North American Actuarial Journal
- Scandinavian Actuarial Journal

▶ Conferences/Meetings/Symposiums Attended:

11. *Big Data Analytics Symposium*, University of Central Florida, Orlando, FL. March 22, 2023.
10. *Big Data Analytics Symposium*, University of Central Florida, Orlando, FL. March 16, 2022.
9. *2022 SOA ImpACT Conference*, Orlando, FL. October 23–26, 2022.
8. *Risk Analytics Symposium 2021: Actuarial Innovations to Emerging Risks*, University of Illinois at Urbana Champaign, Champaign, IL. March 27, 2021.
7. *Joint Statistical Meetings*, Chicago, IL. July 30–August 4, 2016.
6. *3rd Annual Midwest Actuarial Student Conference*, University of Michigan, Ann Arbor, MI. October 3, 2015.
5. *SOA Actuarial Teaching Conference*, June 22–23, 2015. Indianapolis, IN.
4. *ASA 2015 Annual Meeting: Big Data and Statistics*, Marquette University, Milwaukee, WI. June 5, 2015.
3. *Data Intensive Summer School*, University of Texas at El Paso, El Paso, TX. July 8–10, 2013.
2. *CIMPA-UNESCO-NEPAL Research School on Number Theory in Cryptography and its Applications*, Kathmandu, Nepal. July 19–31, 2010.
1. *International Conference on the Teaching of Mathematical Modeling and Applications*, Kathmandu, Nepal. June 25–29, 2007.

Selected Honors and Awards

11. **Start-up Fund** (Fall 2023), Department of Mathematical Sciences, University of Wisconsin-Milwaukee.

10. **Winter Faculty Development Conference (US$500.00)**, University of Central Florida, Orlando, FL, December 13–15, 2021.

9. **Start-up Fund** (Fall 2021), Department of Statistics and Data Science, University of Central Florida.

8. **A bright light for students and a model of faculty excellence (US$500.00)** (Fall 2020), Tennessee Technological University. Teaching recognition by the **Center for Advancing Faculty Excellence in the Office of the Provost** and the **Center for Innovation in Teaching and Learning** for excelling in the classroom regardless of delivery mode due to COVID-19 pandemic and for going the extra mile to help students be successful academically. Over 2800 students completed the survey.

7. **Faculty Development Fund (College of Arts & Sciences)** (Fall 2018 – Summer 2021), Tennessee Technological University.

6. **Mark Lawrence Teply Award** (Spring 2018), University of Wisconsin-Milwaukee. This award was given in recognition of outstanding potential as a researcher in the mathematical sciences.

5. **1st Place Prize (US$500.00)**, Student Presentation Competition (Summer 2017), *52nd Actuarial Research Conference*, Atlanta, GA, July 26–29, 2017.

4. **Research Excellence Award** (Summer 2017), *University of Wisconsin-Milwaukee.*

3. **Actuarial Research Conference Travel Grant** (Summer 2017), Society of Actuaries, Schaumburg, IL.

2. **Chancellor's Graduate Student Award** (Fall 2013–Spring 2018), University of Wisconsin-Milwaukee. The award was given to retain graduate students with exceptional academic records and high promise of future success.

1. **Erasmus Mundus Europe Asia Scholarship** (Spring 2011), European Commission. Scholarship for two years to attend ALGANT Master Program at the University of Milan, Italy.

Dissertations/Theses Supervised

2. (Co-supervise, PhD in Big Data Analytics) **Majed Alkhasha**, *Estimating Weibull Actuarial Loss Severity Models.* In progress since Fall 2021. University of Central Florida.
1. (Master's) **Prosper Aimé Tchoumo**, *Robust Estimation of Lognormal Severity Models.* Completed: May 2021. Tennessee Technological University. Currently a Ph.D. student at the Department of Statistics, Iowa State University, Ames, IA.

Professional Society Memberships

- Fall 2023 – present: Member, American Mathematical Society (AMS).
- Spring 2023 – present: Member, American Statistical Association (ASA).
- Fall 2012 – present: Life Member, Association of Nepalese Mathematicians in America (ANMA).
- Fall 2009 – present: Life Member, Nepal Mathematical Society (NMS).

Programming Skills

- Software Packages: Julia; MatLab; Python; R; SAS; SQL; LaTeX.
- Languages: C++; JAVA.
- Microsoft Office: Excel with VBA, Word and PowerPoint.

University Services

- **University of Wisconsin-Milwaukee**, Fall 2023 – present
  - Actuarial Science Committee – Responsible for Actuarial Science program operations; outreach; program reviews; maintenance of CAE and UEC designations.
- **University of Central Florida**, Fall 2021 – Summer 2023
  - Course scheduler, Spring 2023 – Summer 2023.
  - Undergraduate Curriculum Committee, Fall 2022 – Summer 2023.
  - UCF's Undergraduate Research Council, Fall 2022 – Summer 2023.
  - Actuarial Excellence Committee (**Chair**), Fall 2021 – Summer 2023.
  - Assessment (B.S. Actuarial Sciences – **Coordinator**), Fall 2021 – Summer 2023.
  - Assessment (B.S. Statistics), Fall 2021 – Summer 2023.
- **Tennessee Technological University**, Fall 2018 – Summer 2021
  - Graduate Recruiting and Application Screening Committee.
  - Designing and developing Actuarial Science program and curriculum.

Work Experience

- Technology in the Classroom
  - Competent in creating and designing a pool of questions for a fully automated system of assignments, quizzes, and exams on Canvas and Desire to Learn (D2L).
  - Adaptive online assignment systems: ALEKS, MyLab, TIA, and WebAssign.
  - Creating video lectures via Camtasia Screen Recorder and Video Editor.
- Teaching
  - Graduate Courses at University of Wisconsin-Milwaukee, Fall 2023 – present.
    - Math 899 Seminar in Advanced Mathematics: Actuarial Seminar
    - ActSci 891 Actuarial Risk Theory
    - ActSci 793 Actuarial Models I
  - Graduate Courses at University of Central Florida, Fall 2021 – Summer 2023.
    - Sta 7919 Doctoral Research
    - Sta 6704 Data Mining Methodology II
    - Sta 6329 Statistical Applications of Matrix Algebra
  - Graduate Courses at Tennessee Tech University, Fall 2018 – Summer 2021.

- Math 6070 & 6080 Applied Linear Statistical Methods I & II
- Math 5550 & 5560 Mathematics of Investment I & II – *Designed these courses!*
- Math 5470 & 5480 Probability & Statistics I & II

- Graduate Courses at Tribhuvan University, Nepal, Spring 2009 – Spring 2011.
  - Math 518 & 522 Nonlinear Programming & Scheduling I & II (including combinatorial optimization)
  - Math 514 Theory of Functions (Functions of One Complex Variable)
- Undergraduate Courses at University of Wisconsin-Milwaukee, Fall 2023 – present.
  - ActSci 593 Actuarial Models I
- Undergraduate Courses at University of Central Florida, Fall 2021 – Summer 2023.
  - Sta 4912 Directed Independent Research
  - Sta 4502 Nonparametric Statistical Methods
  - Sta 4186 Theory of Derivative Pricing
  - Sta 4183 Theory of Interest
  - Sta 4163 Statistical Methods II
  - Sta 4135 Loss Models II
  - Sta 4131 Life Contingencies II
  - Sta 4102 Computer Processing of Statistical Data
- Undergraduate Courses at Tennessee Tech University, Fall 2018 – Summer 2021.
  - Math 4550 & 4560 Mathematics of Investment I & II
  - Math 4470 & 4480 Probability and Statistics
  - Math 3070 & 3080 Statistical Methods I & II
  - Math 1910 & 1920 Calculus I & II
- Undergraduate Courses at University of Wisconsin-Milwaukee, 2013 – 2018.
  - Stat 592 Exam P Preparation
  - Math 231 & 232 Calculus I & II
  - Math 211 Business Calculus
  - Math 116 College Algebra
  - Math 117 Trigonometry
  - Math 105 Intermediate Algebra
- University of Cambridge – A Level Courses at Malpi Institute, Nepal, 2010 – 2011.
  - Cambridge International A Level Pure Mathematics and Statistics

▶ Actuarial Summer Intern – Summer 2017, *CUNA Mutual Group*, Madison, WI.

Developed automated VBA programs to compare the assumptions of two different reserve calculation procedures. Reserve audit trail models under nonforfeiture scenario were created. Performed single cell analysis for reserve and projection recalculation.

Teaching Evaluation

▶ University of Central Florida, Fall 2021 – Summer 2023

Average ***Student Perception of Instruction*** scores (SPIs) of my teaching evaluations compared to the department, college, and the entire university at the **University of Central Florida** based on the judgment of – *"Overall effectiveness of the instructor,"* where the evaluation scores are:

1 = Poor, 2 = Fair, 3 = Good, 4 = Very Good, 5 = Excellent.

Semester	Course	Section	Respondents (*Class Size**)	Average SPIs			
				Mine	Dept.	College	UCF
Summer 2023	STA 6704	C057	26 (29)	4.54	4.19	4.19	4.26
Spring 2023	STA 4135	0001	11 (12)	4.91	4.23	4.09	4.17
	STA 4131	0001	13 (14)	4.77			
Fall 2022	STA 4183	0001	25 (30)	4.20	4.29	4.08	4.15
	STA 4163	0002	63 (64)	4.65			
		0003	48 (55)	4.33			
Summer 2022	STA 4502	A001	42 (43)	4.67	4.37	4.16	4.25
	STA 4163	A001	29 (31)	4.59			
Spring 2022	STA 6329	0001	18 (18)	4.50	4.33	4.08	4.17
	STA 4135	0001	11 (11)	4.64			
	STA 4131	0001	12 (12)	4.75			
Fall 2021	STA 4186	0001	10 (15)	4.30	3.83	4.09	4.13
	STA 4183	0001	22 (34)	4.50			
	STA 4102	0001	36 (58)	4.58			

*Class Size**– Number of students who completed the course.

Some comments from my students are summarized below:

- "The course discovered the depth of data mining fundamentals and focused on core concepts related to statistics and machine learning as well. Professor Poudyal explained the concepts in a very comprehensive manner and cleared the fundamental base of data mining and statistics." (STA 6704 DATA MINING METHODOLOGY II, SUMMER 2023.)
- "He is the best professor I ever had. He knows exactly what student need to know, extremely good in explain hard concept behind the analysis. UCF should get him for this program, because he is very brilliant, fair and competent professor for students. I absolutely want to have more class with him, he is so well aware of material and understand what is important in industry. He will boost students to find real job using knowledge we learned in class. His way of teaching is awesome and straight to the point, no other professor taught me concept this clear. Academic focused but also highly industry focused, and that was we wanted to learn." (STA 6704 DATA MINING METHODOLOGY II, SUMMER 2023.)
- "He makes the class engaging, which makes it more interesting to learn and also learn it efficiently. He brought us comprehensive case studies for every theory he thought for us and through them we thoroughly understand and be able to apply it in practical scenarios." (STA 6704 DATA MINING METHODOLOGY II, SUMMER 2023.)
- "Honestly, throughout my time at UCF Dr. Chuda has been the only professor to make me genuinely excited to go to classes. The way he teaches is so descriptive that it makes you want to grasp every little detail and further explore it." (STA 4131: LIFE CONTINGENCIES II, SPRING 2023.)
- "Dr. Chuda explains with real life examples. Finds ways to make class directly applicable." (STA 4183: THEORY OF INTEREST, FALL 2022.)
- "The lectures in class using digital notes, and posting them after adding to them in class was extremely helpful and easy to follow and stay organized. Dr. Chuda was a fantastic professor!" (STA 4163: STATISTICAL METHODS II, FALL 2022.)

- "My favorite thing about him is how he teaches in the lectures. Instead of PowerPoints or writing on the white board, Prof. Poudyal makes his own lesson **packets**, filtering information from the textbook down into what is needed for the course and exams." (Sta 4163: Statistical Methods II, Fall 2022.)
- "Dr. Chuda is an amazing professor, he has an interactive way of teaching that doesn't single-out students and makes sure that everyone has an understanding of the material." (Sta 4502: Nonparametric Statistical Methods, Summer 2022.)
- "Dr. Poudyal is a great instructor and the course was very organized. I felt compelled to attend every class because Dr. Poudyal's lessons included material and explanations that were not always included in the lecture notes or textbook." (Sta 6329: Statistical Applications of Matrix Algebra, Spring 2022.)
- "The instructor's knowledge surrounding the subject and intuitive explanations helped with learning the material. It was a very enjoyable course." (Sta 6329: Statistical Applications of Matrix Algebra, Spring 2022.)
- "Dr. Chuda put so much work into this course. Throughout the semester, he prepared hundreds of pages of lecture notes, which were an incredible resource. I know I will be referencing them long after the semester is over. He provided us with all the information we needed to succeed in his class, and more. His lecture notes provided an amazing framework for taking notes, and clearly communicated the expectations for the types of problems we would be asked to complete on homework assignments and exams. His lectures were very interesting He was easily available to answer any questions I had, and showed genuine interest in my success in his class and my success beyond graduation." (Sta 4135: Loss Models II, Spring 2022.)
- "I really appreciated the amount of effort Dr. Chuda put into writing the lecture notes for the class. The explanations he worked on were much easier to understand than the textbook readings. He is a very good lecturer and breaks down difficult concepts masterfully." (Sta 4131: Life Contingencies II, Spring 2022.)
- "Dr. Poudyal was an attentive and interesting lecturer who was clearly passionate about the subject matter. The homework was relevant and challenging, but not to excess and while proofs in lecture could sometimes get long they helped me understand the inner workings of derivatives." (Sta 4186: Theory of Derivative Pricing, Fall 2021.)
- "The course material of this class was tough, I am sure it is for everyone the first time learning it. However, the professor himself was very involved and interactive with his students which made learning the material more interesting. He was personal and wanted us all to succeed. He made a point to make his class similar to what will be on the Exam FM for actuarial sciences students, which is very realistically applicable." (Sta 4183: Theory of Interest, Fall 2021.)
- "The worksheets were well-laid out and had useful information, especially building up to the ***computer processing*** portion of the class, showing how the computer can remove the tedious portions of the calculations. You're one of the first professors that broke down degrees of freedom simply. I'd picked up what it was, but the professor's always seem to gloss over what it actually is. I legitimately wish I'd had the option to take classes with you before my last class." (Sta 4102: Computer Processing of Statistical Data, Fall 2021.)