

VILLE A. SATOPÄÄ

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ACADEMIC POSITIONS

09/2016 - present **INSEAD**, France
Assistant Professor of Technology and Operations Management

EDUCATION

09/2011 - 05/2016 **The Wharton School of the University of Pennsylvania**, USA
Ph.D. in Statistics. GPA 4.00/4.00
Thesis: *Partial Information Framework: Basic Theory and Applications*

09/2011 - 12/2014 **The Wharton School of the University of Pennsylvania**, USA.
M.A. in Statistics. GPA 4.00/4.00

09/2007 - 05/2011 **Williams College**, USA
B.A. in Computer Science, B.A. in Mathematics. GPA 3.95/4.00

07/2006 - 07/2007 **Finnish Airforce Academy**, Finland
Military Rank: Second Lieutenant

09/2004 - 05/2006 **The Mahindra United World College of India**, India

RESEARCH

Areas of Interest

Bayesian statistics • hierarchical models • information aggregation • judgmental and machine forecasting • spatio-temporal data analysis • probability modeling

Journal Publications (★ denotes alphabetical ordering)

- [1] ★ Palley, A., and Satopää, V. A. (2022) “Boosting the Wisdom of Crowds Within a Single Judgment Problem: Selective Averaging Based on Peer Predictions.” Accepted to Management Science.
- [2] ★ Jia, Y., Keppo, J., and Satopää, V. A. (2022) “Herding in Probabilistic Forecasts.” Accepted to Management Science.
 - Runner-up of the Decision Analysis Society (DAS) Student Paper Award
- [3] Satopää, V. A., Salikhov, M., Tetlock, P., and Mellers, B. (2022) “Decomposing the Effects of Crowd-Wisdom Aggregators: The Bias-Information-Noise (BIN) Model.” Accepted to International Journal of Forecasting.

- [4] Satopää, V. A. (2022) “Regularized Aggregation of One-off Probability Predictions” Accepted to Operations Research.
- [5] Satopää, V. A. (2021) “Improving the Wisdom of Crowds with Analysis of Variance of Predictions of Related Outcomes.” International Journal of Forecasting.
- [6] Satopää, V. A., Salikhov, M., Tetlock, P., and Mellers, B. (2021) “Bias, Information, Noise: The BIN Model of Forecasting.” Management Science.
- Discussed in “BIN There, Done That” white paper by Morgan Stanley and in the New York Times Best Seller *Noise: A Flaw in Human Judgment* by Daniel Kahneman, Olivier Sibony, and Cass Sunstein.
- [7] Satopää, V. A., Jensen, S. T., Pemantle, R., and Ungar, L. H. (2017) “Partial Information Framework: Aggregating Estimates from Diverse Information Sources.” The Electronic Journal of Statistics.
- [8] ★ George, E., Rockova, V., Rosenbaum, P. R., Satopää, V. A., Silber, J. H. (2017) “Mortality Rate Estimation and Standardization for Public Reporting: Medicare’s Hospital Compare.” Journal of the American Statistical Association.
- [9] Satopää, V. A. (2016) Discussion of “Of Quantiles and Expectiles: Consistent Scoring Functions, Choquet Representations and Forecast Rankings” Journal of the Royal Statistical Society: Series B.
- [10] ★ Ernst, P., Pemantle, R., Satopää, V. A., and Ungar, L. H. (2016) “Bayesian Aggregation of Two Forecasts in the Partial Information Framework.” Statistics & Probability Letters.
- [11] Silber, J. H., Satopää, V. A., Rockova, V., Wang, W., Hill, A., Even-Shoshan, O., George, E., and Rosenbaum, P. R. (2016) “Improving Medicare’s Hospital Compare Mortality Model.” Health Services Research.
- [12] Satopää, V. A., Pemantle, R., and Ungar, L. H. (2016) “Modeling Probability Forecasts via Information Diversity.” Journal of the American Statistical Association.
- [13] Satopää, V. A., Jensen, S. T., Mellers, B. A., Tetlock, P. E., and Ungar, L. H. (2014). “Probability Aggregation in Time-Series: Dynamic Hierarchical Modeling of Sparse Expert Beliefs.” Annals of Applied Statistics.
- Winner of the Section on Bayesian Statistical Science (SBSS) of American Statistical Association (ASA) Student Paper Competition
- [14] Satopää, V. A., Baron, J., Foster, D. P., Mellers, B. A., Tetlock, P. E., and Ungar, L. H. (2014). “Combining Multiple Probability Predictions Using a Simple Logit Model.” International Journal of Forecasting.
- [15] ★ Klingenberg, B. and Satopää, V. A. (2013). “Simultaneous Confidence Intervals for Comparing Margins of Multivariate Binary Data.” Computational Statistics & Data Analysis.
- [16] Satopää, V. A. and De Veaux, R. D. (2012). “A Robust Boosting Algorithm for Chemical Modeling.” Current Analytical Chemistry.

Publications in Refereed Conferences

- [17] Ungar, L. H., Mellers, B., Satopää, V. A., Tetlock, P. E., and Baron, J. (2012). “The Good Judgment Project: A Large Scale Test of Different Methods of Combining Expert Predictions.”

In 2012 AAAI Fall Symposium Series.

- [18] Satopää, V. A., Albrecht, J., Irwin, D., and Raghavan, B. (2011). “Finding a “Kneedle” in a Haystack: Detecting Knee Points in System Behavior.” In Proceedings of the Third IEEE Workshop on Simplifying Complex Networks for Practitioners (Simplex).

Papers Under Review (★ denotes alphabetical ordering)

- [19] Bertani, N., Satopää, V. A., and Jensen, S. “Joint Bottom-Up Method for Forecasting Grouped Time Series: Application to Australian Domestic Tourism.” Submitted.
- Best Paper Award Finalist in 2020 INFORMS Workshop on Data Mining and Decision Analytics
- [20] Powell, B., MacKay, N., Satopää, V. A., and Tetlock, P. “The Skew-adjusted Extremized-mean: A simple method for identifying and learning from informed minorities in groups of forecasters.” Major Revision in Decision (special issue in judgment and decision research on the wisdom of the crowds).
- [21] Lim, F., Chun, S. Y., and Satopää, V. A. “Monetization of Loyalty Digital Currency: Mental Accounting and Income Effects on Spending.” Submitted.
- [22] ★ Keppo, J., and Satopää, V. A. “Bayesian Herd Detection in Dynamic Data” Submitted.

Working Papers (★ denotes alphabetical ordering)

- [23] Satopää, V. A., Palley, A. B., Grushka-Cockayne Y., and Persinger, C. C. “Combining Judgmental Forecasts With Data to Improve Decision Making: An Application to 20 Years of Drug Development Predictions at Eli Lilly and Company.” Working Paper.
- [24] Bertani, N., Jensen, S., and Satopää, V. A. “Spatiotemporal Modeling with General and Geographical Covariates: Insights on Crime in Philadelphia” Working Paper.
- [25] Wang, J., Mellers, B., Ungar, L., and Satopää, V. A. “Verification of Probability Forecasts for Events with Varying Numbers of Possible Outcomes” Working Paper.

R Packages

- **BINtools**, Satopää, V. A., Salikhov, M., and Moreno, E., (2021)
- **braggR**, Satopää, V. A., (2021)
- **metaggR**, Satopää, V. A. and Palley, A. B., (2020)

Seminar Presentations

- Nova School of Business and Economics, 2022
- Frankfurt School of Finance and Management, 2022
- Yale School of Management, 2022
- Católica Lisbon School of Business and Economics, 2022
- NEOMA Business School, 2021
- Luiss Business School [seminar discussant], 2021
- Vienna University of Economics and Business, 2021
- National University of Singapore, 2020

- University of St. Gallen, 2020
- National University of Singapore, 2019
- University of Bern, 2018
- Singapore Management University, 2017
- Darden School of Business, University of Virginia, 2017
- National University of Singapore, 2017
- University of California, Santa Barbara, 2016
- USC Marshall School of Business, 2016
- MIT Sloan School of Management, 2016
- INSEAD, 2016
- Saïd Business School, 2016
- London Business School, 2016
- Università della Svizzera italiana, 2016
- London School of Economics, 2015

Conference & Workshop Presentations

- INFORMS Annual Meeting, Indianapolis, 2022
- 42nd International Symposium on Forecasting, Oxford, 2022
- EURO Conference, Helsinki, 2022
- 41st International Symposium on Forecasting, online, 2021
- DIMACS Workshop on Forecasting [2 talks & 2 posters], online, 2021
- INFORMS Annual Meeting, online, 2021
- INFORMS Annual Meeting [3 talks], online, 2020
- European Technology and Operations Management Conference, London, 2019
- 39th International Symposium on Forecasting, Thessaloniki, 2019
- Advances in Decision Analysis [2 talks], Milan, 2019
- Bayesian Crowd Conference [3 talks], Rotterdam, 2019
- Manufacturing and Service Operations Management Conference, Singapore, 2019
- Workshop on Information and Learning, Barcelona, 2019
- INFORMS Annual Meeting [2 talks], Phoenix, 2018
- Conference on Computational and Methodological Statistics, Pisa, 2018
- 37th International Symposium on Forecasting, Cairns, 2017
- Young Researchers Conference in Statistics, 2017
- INFORMS Annual Meeting, Houston, 2017
- Workshop on Collective Forecasting, Santa Fe, 2016
- Workshop on Collective Forecasting, Washington D.C., 2016
- Joint Statistical Meeting, Seattle, 2015
- 71st annual Deming Conference on Applied Statistics, Atlantic City, 2015
- INFORMS Annual Meeting, Philadelphia, 2015
- ISBA 2014 World Meeting [1 poster], Cancun, 2014
- 34th International Symposium on Forecasting, Rotterdam, 2014
- Joint Statistical Meeting, Boston, 2014
- The 25th Anniversary Symposium of Computer Science [1 poster], Williamstown, 2013

Industry Presentations

- Metaculus, online, 2022
- Deloitte, online, 2022
- System2 [2 talks], online, 2021
- Good Judgement Inc., online, 2021
- IARPA Site Visit at the Wharton School, Philadelphia, 2019
- A major hedge fund (anonymity required by contract), USA
- Capula Investment Management, London, 2017
- IBM Research, New York, 2017

Research Awards

- Best Paper Award Finalist in 2020 INFORMS Workshop on Data Mining and Decision Analytics (with Bertani, N. and Jensen, S.).
- Runner-up for Decision Analysis Society (DAS) 2020 Student Paper Award (with Jia, Y. and Keppo, J.) – Awarded by a panel of members of the Decision Analysis Society at INFORMS.
- Bayesian Crowd Conference Travel Award in 2019 – Awarded by *the committee of the 14th Annual Tinbergen Institute Conference: Bayesian Crowd* to present at the Bayesian Crowd Conference, Rotterdam.
- J. Parker Memorial Bursk Award in 2015 – Awarded by the Statistics Department at the Wharton School for excellence in research.
- Deming Student Scholar Award in 2015 – Awarded by the American Statistical Association and the American Society for Quality to recognize an outstanding graduate student in statistics
- Winner of the Section on Bayesian Statistical Science (SBSS) Student Paper Competition in 2015 – Awarded by the American Statistical Association, Section on Bayesian Statistical Science, at the Joint Statistical Meetings, Seattle, Washington, 2015.
- Judith and William Bollinger Ph.D. Fellowship for Interdisciplinary Research in 2014 – Awarded by the Office of the Wharton Doctoral Programs to a doctoral student whose interdisciplinary academic work is truly outstanding and who has the opportunity to be a top-level academic scholar.
- International Institute of Forecasters (ISF) Travel Award in 2014 – Awarded to present at the 34th International Symposium on Forecasting, Rotterdam, The Netherlands.
- ISBA Junior Travel Award in 2014 – Awarded to present at the International Society for Bayesian Analysis (ISBA) World Meeting, Cancun, Mexico, 2014
- Finalist for the HHMI International Student Research Fellowship in 2013

Research Grants

- World Food Program (WFP) Grant on Predicting Acute Malnutrition in Africa: \$30,000 in 2021 (with Luk Van Wassenhove and Nicolò Bertani)
- Wharton-INSEAD Alliance Research Grant: €17,831 in 2019 (with Philip Tetlock and Barbara Mellers)

- Wharton-INSEAD Alliance Research Grant: €8,984 in 2019 (with Edward George)

MEDIA COVERAGE

- [Ville Satopää and Marat Salikhov on the BIN Model of Forecasting](#). July 3, 2021. Podcast Interview with Global Guessing.
- [Making the Crowd Wiser](#). August 21, 2020. INSEAD Knowledge.
 - Featured in [The New York Times](#).
- [Want Better Forecasting? Silence the Noise](#). November 26, 2019. Podcast Interview with Knowledge@Wharton.
- [The Secret Ingredients of ‘Superforecasting’](#). November 8, 2019. INSEAD Knowledge.
- [Disrupting business models is not enough. We need tech innovation too](#). March 15, 2018. World Economic Forum.
- [Warning: Do Not Just Average Predictions](#). July 13, 2017. INSEAD Knowledge.
- [After the surprise of 2016, here’s how pollsters can do better in predicting election results](#). May 31, 2017. Washington Post.
- [Improving the Accuracy of Hospital Rankings](#). May 12, 2017. INSEAD Knowledge.
- [New analysis finds Medicare program underestimates heart attack mortality rates](#). April 19, 2017. American Statistical Association.

SERVICE ACTIVITIES

- Ad-Hoc Reviewer for
Proceedings of the National Academy of Sciences (PNAS), Annals of Statistics (AoS), Bayesian Analysis, Journal of the American Statistical Association (JASA), Management Science, Operations Research, Psychonomic Bulletin & Review, Decision Analysis, International Journal of Forecasting, PLOS One, California Management Review, IISE Transactions, Decision, Journal of Collective Intelligence, Judgment and Decision Making (JDM), Journal of Econometrics, Futures & Foresight Science, ACM Conference on Economics and Computation
- Session chair in Bayesian Crowd (2019), MSOM (2019), INFORMS Annual Meeting (2020, 2021, 2022)
- Referee for the 2018 Section on Bayesian Statistical Science (SBSS) Student Paper Competition.

TEACHING

Teaching Awards

- Best MBA Core Course Teacher in Fontainebleau in 2019 – Awarded by student vote.
- Nominated for Best MBA Core Course Teacher in Singapore in 2017 and in Fontainebleau in 2019 – Awarded to top three courses by student vote.

- Deans' Commendation for Excellence in MBA Teaching in 2017, 2018, 2019

Case Studies and Pedagogical Material

Courses Development:

- Ph.D Elective: Bayesian Computation and Modeling
- Executive Education: AI in Business (co-developed with Phanish Puranam and Theodoros Evgeniou)
- Online Executive Education: Transforming Your Business with AI (co-developed with Phanish Puranam and Theodoros Evgeniou)

Case Studies:

- “To Catch a Thief: Explainable AI in Insurance Fraud Detection” with Antoine Desir, Laura Heely, and Eric Sibony, 2022.

TECHNICAL SKILLS, HOBBIES, & LANGUAGES

- +10 years of experience in R, C++, Stan, and L^AT_EX. Some experience in Java, Python, and Matlab.
- Languages: Finnish (native), English (fluent), French (intermediate, B2)
- Thai Boxing: 5 years.
- Scuba Diving: PADI Open Water Diver Certified Since 2012.