

# VILLE A. SATOPÄÄ

Technology and Operations Management, INSEAD  
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## ACADEMIC POSITIONS

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- 09/2023 - Present    **INSEAD**, France  
Associate Professor (with Tenure) of Technology and Operations Management
- 09/2016 - 09/2023    **INSEAD**, France  
Assistant Professor of Technology and Operations Management

## EDUCATION

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- 09/2011 - 05/2016    **The Wharton School of the University of Pennsylvania**, USA  
Ph.D. in Statistics.  
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.
- 09/2007 - 05/2011    **Williams College**, USA  
B.A. in Computer Science, B.A. in Mathematics.
- 07/2006 - 07/2007    **Finnish Airforce Academy**, Finland  
Military Rank: Second Lieutenant
- 09/2004 - 05/2006    **The Mahindra United World College of India**, India  
International Baccalaureate (IB)

## RESEARCH OUTPUT

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### Journal Publications

- [1] Satopää, V. A. (2024) "Combining Probability Predictions" **Foresight: The International Journal of Applied Forecasting**.
- [2] Tetlock, E., Karvetski, C., Satopää, V. A., Chen, K. (2023) "Exploring the limits on Meliorism: A commentary on Tetlock et al. (2023)." **Futures & Foresight Science**.
- [3] Tetlock, E., Karvetski, C., Satopää, V. A., Chen, K. (2023) "Long-Range Subjective-Probability Forecasts of Slow-Motion Variables in World Politics: Exploring Limits on Expert Judgment." **Futures & Foresight Science**.
- [4] Keppo, J., Satopää, V. A. (2023) "Bayesian Herd Detection in Dynamic Data." **International Journal of Forecasting**.
- [5] Palley, A., Satopää, V. A. (2023) "Boosting the Wisdom of Crowds Within a Single Judgment Problem: Selective Averaging Based on Peer Predictions." **Management Science**.

- [6] Powell, B., Satopää, V. A., MacKay, N., Tetlock, P. (2022) "The Skew-adjusted Extremized-mean: A simple method for identifying and learning from informed minorities in groups of forecasters." **Decision**, Special issue in judgment and decision research on the wisdom of the crowds.
- [7] Jia, Y., Keppo, J., Satopää, V. A. (2022) "Herding in Probabilistic Forecasts." **Management Science**.  
 ✱ Runner-Up for the Decision Analysis Society Student Paper Award
- [8] Satopää, V. A., Salikhov, M., Tetlock, P., Mellers, B. (2022) "Decomposing the Effects of Crowd-Wisdom Aggregators: The Bias-Information-Noise (BIN) Model." **International Journal of Forecasting**.
- [9] Satopää, V. A. (2022) "Regularized Aggregation of One-off Probability Predictions." **Operations Research**.
- [10] Satopää, V. A. (2021) "Improving the Wisdom of Crowds with Analysis of Variance of Predictions of Related Outcomes." **International Journal of Forecasting**.
- [11] Satopää, V. A., Salikhov, M., Tetlock, P., 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 best-seller [Noise: A Flaw in Human Judgment](#) by Nobel laureate Daniel Kahneman, Olivier Sibony, and Cass Sunstein. Other media coverage: [Global Guessing](#), [INSEAD Knowledge](#), [Knowledge@Wharton](#), [Britten Coyne Partners](#), [Investors' Chronicle](#), [Good Judgment](#), [OnRecord](#)
- [12] Satopää, V. A., Jensen, S. T., Pemantle, R., Ungar, L. H. (2017) "Partial Information Framework: Aggregating Estimates from Diverse Information Sources." **The Electronic Journal of Statistics**.
- [13] 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**.  
 ✱ Media coverage: [Chicago Booth Review 1](#), [Chicago Booth Review 2](#), [Medical Press](#), [INSEAD Knowledge](#)
- [14] 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**.
- [15] Ernst, P., Pemantle, R., Satopää, V. A., Ungar, L. H. (2016) "Bayesian Aggregation of Two Forecasts in the Partial Information Framework." **Statistics & Probability Letters**.
- [16] Silber, J. H., Satopää, V. A., Mukherjee, N., Rockova, V., Wang, W., Hill, A., Even-Shoshan, O., Rosenbaum, P. R., George, E. (2016) "Improving Medicare's Hospital Compare Mortality Model." **Health Services Research**.
- [17] Satopää, V. A., Pemantle, R., Ungar, L. H. (2016) "Modeling Probability Forecasts via Information Diversity." **Journal of the American Statistical Association**.
- [18] Satopää, V. A., Jensen, S. T., Mellers, B. A., Tetlock, P. E., Ungar, L. H. (2014) "Probability Aggregation in Time-Series: Dynamic Hierarchical Modeling of Sparse Expert Beliefs."

### Annals of Applied Statistics.

- ✱ Winner of the 2015 Student Paper Competition by the Section on Bayesian Statistical Science of the American Statistical Association

[19] Satopää, V. A., Baron, J., Foster, D. P., Mellers, B. A., Tetlock, P. E., Ungar, L. H. (2014) "Combining Multiple Probability Predictions Using a Simple Logit Model." **International Journal of Forecasting**.

- ✱ Media coverage: [LessWrong](#), [AI Impacts](#), [Effective Altruism Forum](#), [The Washington Post](#), [INSEAD Knowledge](#)

[20] Klingenberg, B., Satopää, V. A. (2013) "Simultaneous Confidence Intervals for Comparing Margins of Multivariate Binary Data." **Computational Statistics & Data Analysis**.

[21] Satopää, V. A., De Veaux, R. D. (2012) "A Robust Boosting Algorithm for Chemical Modeling." **Current Analytical Chemistry**.

### Publications in Refereed Conferences Proceedings

[22] Ungar, L. H., Mellers, B., Satopää, V. A., Tetlock, P. E., Baron, J. (2012) "The Good Judgment Project: A Large Scale Test of Different Methods of Combining Expert Predictions." In **2012 AAAI Fall Symposium Series**.

[23] Satopää, V. A., Albrecht, J., Irwin, D., 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)**.

- ✱ Media coverage: [Towards Data Science 1](#), [Towards Data Science 2](#), [Practical Data Science](#)

### Papers Under Review

[24] Bertani, N., Jensen, S., Satopää, V. A. "Joint Bottom-Up Method for Forecasting Grouped Time Series: Application to Australian Domestic Tourism." Second Round: Major Revision Invited at **Operations Research**.

- ✱ Best Paper Award Finalist in 2020 INFORMS Workshop on Data Mining and Decision Analytics

[25] Lim, F., Chun, S. Y., Satopää, V. A. "Loyalty Currency and Mental Accounting: Do Consumers Treat Points Like Money?." Third Round: Minor Revision Invited at **Manufacturing & Service Operations Management**.

[26] Satopää, V. A., Palley, A. B., Grushka-Cockayne Y., Persinger, C. C. "Machine-Moderated Judgmental Forecasting to Improve Prediction Accuracy and Decision Making." Second Round: Reject-and-Resubmit Invited at **Management Science**

[27] Wang, J., Mellers, B., Ungar, L., Satopää, V. A. "Fair Skill Brier Score: Evaluating Probabilistic Forecasts of One-Off Events with Different Numbers of Categorical Outcomes." First Round: Submitted to **Management Science**

## Working Papers

- [28] Jia, Y., Keppo, J., Satopää, V. A. "Wisdom of Strategically Diverse Crowds."
- [29] Salikhov, M., Satopää, V. A. "A Heterogeneous Bias-Information-Noise Model of Forecasting Skill and Event Predictability."

## SOFTWARE DEVELOPMENT

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### R Packages

- [30] Satopää, V. A., Salikhov, M., Moreno, E. (2021) "BINtools: Bayesian BIN (Bias, Information, Noise) Model of Forecasting." The Comprehensive R Archive Network (CRAN).
- [31] Satopää, V. A. (2021) "braggR: Calculate the Revealed Aggregator of Probability Predictions." The Comprehensive R Archive Network (CRAN).
- [32] Satopää, V. A., Palley, A. B. (2020) "metaggR: Calculate the Knowledge-Weighted Estimate." The Comprehensive R Archive Network (CRAN).

## TEACHING MATERIAL DEVELOPED

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### Courses

- [33] Executive Education Course "AI in Business" (joint with Puranam, P., Evgeniou, T.)
- [34] Online Executive Education Course "Transforming Your Business with AI" (joint with Puranam, P., Evgeniou, T.)
- [35] "Operations Analytics" Module in the COO Long Form Online Certificate Program
- [36] Ph.D. Elective "Bayesian Computation and Modeling"
- [37] Ph.D. Elective "Research Topics in TOM" (joint with other TOM faculty)

### Case Studies

- [38] Desir, A., Satopää, V. A., Heely, L., Sibony, E. (2022) "To Catch a Thief: Explainable AI in Insurance Fraud Detection." INSEAD Case with Teaching Note
  - ✱ Runner-Up (2nd place) in the 2022 INFORMS Case Competition

## POPULAR PRESS

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### Articles

- [39] "Making the Crowd Wiser", INSEAD Knowledge, 21 August 2020
  - ✱ Featured in [The New York Times](#)
- [40] "The Secret Ingredients of 'Superforecasting'", INSEAD Knowledge, 8 November 2019
- [41] "Disrupting business models is not enough. We need tech innovation too", The World Economic Forum, 15 March 2018

- [42] “Warning: Do Not Just Average Predictions”, INSEAD Knowledge, 13 July 2017
- [43] “After the surprise of 2016, here’s how pollsters can do better in predicting election results”, The Washington Post, 31 May 2017
- [44] “Improving the Accuracy of Hospital Rankings”, INSEAD Knowledge, 12 May 2017

## Interviews

- [45] “Ville Satopää and Marat Salikhov on the BIN Model of Forecasting”, Podcast interview by Global Guessing, 3 July 2021
- [46] “Want Better Forecasting? Silence the Noise”, Podcast interview by Knowledge@Wharton, 26 November 2019

## AWARDS

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### Research

Paper [24] was a finalist in the 2020 INFORMS Workshop on Data Mining and Decision Analytics Best Paper Award Competition

Paper [7] was the Runner-Up in the Decision Analysis Society 2020 Student Paper Award Competition – 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

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

Paper [18] won the 2015 Student Paper Competition by the Section on Bayesian Statistical Science of the American Statistical Association

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 Travel Award in 2014 – Awarded to present at the 34th International Symposium on Forecasting

International Society for Bayesian Analysis Junior Travel Award in 2014 – Awarded to present at the ISBA World Meeting

Finalist for the 2013 Howard Hughes Medical Institute International Student Research Fellowship

Elected to Sigma Xi Research Honor Society in 2011 – Recognizes outstanding ability and motivation for research during undergraduate studies.

## **Course Instruction**

Best MBA Core Course Teacher at INSEAD in 2019 – Awarded by student vote

Nominated for Best MBA Core Course Teacher at INSEAD in 2017, 2019, and 2023 – Awarded by student vote

Deans' Commendation for Excellence in MBA Teaching at INSEAD in 2018, 2019, 2020, and 2023

## **Teaching Material**

Case study [38] was the Runner-Up (2nd place) in the 2022 INFORMS Case Competition – Awarded by a panel of judges familiar with the case method.

## **Other**

Elected to Phi Beta Kappa Honor Society in 2010 – Awarded to students with GPA in the top 5% of the 2011 graduating class of Williams College.

Robert M. Kozelka Prize in 2009, 2010, and 2011 – Awarded annually to recognize an excellent statistics student at Williams College.

## **GRANTS**

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World Food Program Grant for Predicting Acute Malnutrition Among Children in Africa: \$30,000 in 2021 (with Van Wassenhove, L., Bertani, N.)

Wharton-INSEAD Alliance Research Grant: €17,831 in 2019 (with Tetlock, P., Mellers, B.)

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

## **PRESENTATIONS**

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### **Seminars**

National University of Singapore, Singapore, 2023

INSEAD (School-Wide Seminar), France, 2022

Kelley School of Business at Indiana University, USA, 2022

Nova School of Business and Economics, Portugal, 2022

Yale School of Management, USA, 2022

Católica Lisbon School of Business and Economics, Portugal, 2022

NEOMA Business School, France, 2021

Luiss Business School [seminar discussant], Italy, 2021

Vienna University of Economics and Business, Austria, 2021

National University of Singapore, Singapore, 2020

University of St. Gallen, Switzerland, 2020

National University of Singapore, Singapore, 2019

University of Bern, Switzerland, 2018

Singapore Management University, Singapore, 2017  
Darden School of Business, University of Virginia, USA, 2017  
National University of Singapore, Singapore, 2017  
University of California, Santa Barbara, USA, 2016  
USC Marshall School of Business, USA, 2016  
MIT Sloan School of Management, USA, 2016  
INSEAD, France, 2016  
Saïd Business School, UK, 2016  
London Business School, UK, 2016  
Università della Svizzera italiana, Switzerland, 2016  
London School of Economics, UK, 2015

## **Workshops**

Artificial Intelligence and Business Analytics Workshop, Frankfurt School of Finance and Management, Germany, 2022  
DIMACS Workshop on Forecasting [2 talks & 2 posters], online, 2021  
Workshop on Information and Learning, IESE, Spain, 2019  
Workshop on Collective Forecasting, Santa Fe, USA, 2016  
Workshop on Collective Forecasting, Washington D.C., USA, 2016

## **Conferences**

INFORMS Annual Meeting, Phoenix, USA, 2023  
INFORMS Annual Meeting [2 talks], Indianapolis, USA, 2022  
42nd International Symposium on Forecasting, Oxford, UK, 2022  
EURO Conference, Helsinki, Finland, 2022  
41st International Symposium on Forecasting, online, 2021  
INFORMS Annual Meeting, online, 2021  
INFORMS Annual Meeting [3 talks], online, 2020  
European Technology and Operations Management Conference, London, UK, 2019  
39th International Symposium on Forecasting, Thessaloniki, Greece, 2019  
Advances in Decision Analysis [2 talks], Milan, Italy, 2019  
Bayesian Crowd Conference [3 talks], Rotterdam, The Netherlands, 2019  
Manufacturing and Service Operations Management Conference, Singapore, 2019  
INFORMS Annual Meeting [2 talks], Phoenix, USA, 2018  
Conference on Computational and Methodological Statistics, Pisa, Italy, 2018  
37th International Symposium on Forecasting, Cairns, Australia, 2017  
Young Researchers Conference in Statistics, Baltimore, USA, 2017  
INFORMS Annual Meeting, Houston, USA, 2017  
Joint Statistical Meeting, Seattle, USA, 2015

71st annual Deming Conference on Applied Statistics, Atlantic City, USA, 2015  
 INFORMS Annual Meeting, Philadelphia, USA, 2015  
 ISBA 2014 World Meeting [1 poster], Cancun, Mexico, 2014  
 34th International Symposium on Forecasting, Rotterdam, The Netherlands, 2014  
 Joint Statistical Meeting, Boston, USA, 2014  
 The 25th Anniversary Symposium of Computer Science [1 poster], Williamstown, USA, 2013

## Industry

World Food Program and UNICEF [several talks], online, 2022  
 Metaculus, online, 2022  
 Deloitte, online, 2022  
 System2 [2 talks], online, 2021  
 Good Judgement Inc., online, 2021  
 IARPA Site Visit at the Wharton School, Philadelphia, USA, 2019  
 A top 20 largest US hedge fund (anonymity by contract), USA, 2019  
 Capula Investment Management, London, UK, 2017  
 IBM Research, New York, USA, 2017

## SERVICE

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### Organization of Conferences, Workshops, and Seminars

Co-organizer of Technology and Operations Management Seminar Series at INSEAD, 2022-Present  
 Co-organizer of a 2-day Workshop in Information and Learning in Decisions and Operations, July 8-9 2021 and July 20-21 2023. The schedule involved around a dozen talks by junior faculty from top universities, including INSEAD, MIT, Stanford, Columbia, Duke, IESE, Wharton, University of Chicago, and others.  
 Co-organizer of Fontainebleau Campus-Wide Research Seminar Series at INSEAD, 2017-18  
 Session chair in the following conferences: Bayesian Crowd (2019), MSOM (2019), INFORMS Annual Meeting (2020, 2021, 2022), International Symposium on Forecasting (2022)

### Committees

Ph.D. thesis committee at INSEAD for Anup Walvekar (2018), Marat Salikhov (2019), and Nicolò Bertani (2021).  
 Ph.D. summer paper committee at INSEAD for Andres Alban (2017, 2018), Sundara Panchanatham (2018), and Bengisu Urlu (2021).  
 Ph.D. qualifier committee at INSEAD, 2017-Present  
 Nominated to the International Mathematical Statistics New Researchers Committee, 2017  
 Member of the Faculty Advisory Group on Data Analytics at INSEAD, 2020-21



## **Lectures and Panels**

Faculty Lounge Session – Learnings from the Africa Trek, 2023

Tech Talk X at INSEAD, 2023

Masterclass at INSEAD's MBA In-House Event, 2019

Lecture in INSEAD's Leading Management Education, 2018

Panel on Job Market Advice to Ph.D. Students, 2017, 2018

## **Editorships and Refereeing**

Associate Editor for Operations Research, 2023-

Associate Editor for Collective Intelligence, 2023-

Referee for the 2018 Section on Bayesian Statistical Science Student Paper Competition and for the 2022 and 2023 INFORMS Behavioral Operations Management Section Best Working Paper Competition

Grant reviewer for the Israel Science Foundation, 2019

Reviewer for the following journals and conferences (ordered alphabetically):

ACM Conference on Economics and Computation · American Statistician · Annals of Statistics · Bayesian Analysis · California Management Review · Collective Intelligence · Decision · Decision Analysis · Futures & Foresight Science · IJSE Transactions · International Journal of Forecasting · Journal of Econometrics · Journal of Money, Credit, and Banking · Journal of the American Statistical Association · Judgment and Decision Making · Management Science · Operations Research · PLOS One · Proceedings of the National Academy of Sciences · Production and Operations Management · Psychonomic Bulletin & Review

## **Student Supervision at INSEAD**

Advisor for +10 MBA independent study projects

Ph.D. advisor for the following students:

1. Nicolò Bertani. Defended in 2021. First placement: Assistant Professor, Católica Lisbon School of Business & Economics.
2. Junnan Wang. Expected to graduate in 2024.

## TEACHING

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### Executive Education

#### Online Company Specific

Programme:

DNV Programme, INSEAD

When:

2023 Fall

#### Online Open Enrollment

Programme:

Chief Operating Officer Programme, INSEAD

When:

2023 Fall

Programme:

Transforming Your Business with AI, INSEAD

When:

2021 Spring, 2021 Fall, 2022 Spring, 2022 Fall, 2023 Spring, 2023 Fall

#### In-Person Company Specific

Programme:

Metso-Outotec Programme, INSEAD

When:

2023 Spring

#### In-Person Open Enrollment

Programme:

AI in Business, INSEAD

When:

2019 Spring, 2020 Spring, 2021 Spring, 2024 Spring

Programme:

Advanced Supply Chain Management, INSEAD

When:

2023 Spring

Programme:

Leading Digital Transformation & Innovation, INSEAD

When:

2023 Fall (Sept. & Nov.)

### MBA Education

Core course "Process and Operations Management", INSEAD

Times taught:

2017 Spring, 2017 Fall, 2019 Spring, 2020 Spring, 2022 Fall, 2023 Fall

### Ph.D. Education

Elective course "Research Topics in TOM", INSEAD

Times taught:

2021 Spring

Core course "Discrete Stochastic Processes", INSEAD

Times taught:

2017 Spring, 2018 Spring, 2019 Spring, 2020 Spring, 2021 Spring, 2022 Spring, 2023 Spring, 2024 Spring

Elective course "Bayesian Computation and Modeling", INSEAD

Times taught:

2018 Spring, 2020 Spring, 2022 Spring, 2024 Spring

## Undergraduate Education

Elective course “Introductory Statistics”, Wharton School of the University of Pennsylvania  
Times taught: 2015 Summer

## INDUSTRY ENGAGEMENT

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### Consulting

2019-Present Founder and president of the company “Satopaa Consulting”  
Clients: 2021-2022 Symbiosys Capital, USA  
2020-2021 University of Pennsylvania’s team in IARPA’s Forecasting Counterfactuals in Uncontrolled Settings project, USA  
2019-2021 A top 20 largest US hedge fund (anonymity by contract), USA  
  
2014-2015 Consultant for the Good Judgment Project, USA

### Other Professional Experience

2012-2016 Trainee at the Center for Outcomes Research, the Children’s Hospital of Philadelphia, USA  
2008 Summer intern at Kane Capital Management, USA

## HOBBIES AND LANGUAGES

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Languages: Finnish (native), English (fluent), French (intermediate, B2)  
Thai Boxing: +5 years  
Scuba Diving: PADI Open Water Diver Certified Since 2012