

# Pankaj Chejara

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## EDUCATION

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<b>Tallinn University</b> <i>Ph.D. in Learning Analytics</i>	Tallinn, Estonia Sep 2018 – Sep 2024
<b>National Institute of Technology</b> <i>Master of Technology; Computer Engineering</i>	Jaipur, India Aug 2010 – Jul 2012
<b>Rajasthan Technical University</b> <i>Master of Computer Applications;</i>	Kota, India Aug 2007 – Jun 2010
<b>University of Rajasthan</b> <i>Bachelor of Science; Mathematics</i>	Jaipur, India Jul 2004 – Jun 2007

## RESEARCH EXPERIENCE

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<b>Learning, Innovation, and Technology Lab, Harvard University</b> <i>Visiting Researcher</i> <ul style="list-style-type: none"><li>* Collaborated with Prof. Bertrand Schneider.</li><li>* Investigated the relationship between multimodal data and collaboration constructs in classroom settings using Multimodal Learning Analytics.</li></ul>	Cambridge, MA, USA Mar 2023 – May 2023
<b>SLATE research group, University of Bergen</b> <i>Visiting Researcher</i> <ul style="list-style-type: none"><li>* Worked with Dr. Mohammad Khalil (Senior Researcher) from the SLATE research group.</li><li>* Investigated the impact of different temporal window sizes on the performance of collaboration estimation models developed using Multimodal Learning Analytics.</li></ul>	Bergen, Norway Jun 2022 – Jul 2022
<b>GSIC-EMIC research group, University of Valladolid</b> <i>Visiting Researcher</i> <ul style="list-style-type: none"><li>* Worked with Prof. Yannis Dimitriadis to design a research study to evaluate a Multimodal Learning Analytics system for collaboration monitoring.</li><li>* Analysed impact of simulated noise on the performance of machine learning models for collaboration quality estimation developed using multiple data (audio and logs).</li></ul>	Valladolid, Spain Jan 2022 – May 2022
<b>Center of Education Technology, Tallinn University</b> <i>Doctoral Researcher</i> <ul style="list-style-type: none"><li>* Worked with Prof. Kairit Tammets on the project “Model-based Learning Analytics for Fostering Students’ Higher-order Thinking Skills”.</li><li>* Worked on a web-based application to track students’ interaction with H5P elements using xAPI statements.</li><li>* Developed an automated collaboration estimation and guidance system to support teachers in Estonian classrooms.</li></ul>	Tallinn, Estonia Sep 2018 – Aug 2024

## WORK EXPERIENCE

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<b>Health Data Division, Metersert</b> <i>Data Scientist</i>	Tallinn, Estonia Sep 2024 – present
<b>Center of Education Technology, Tallinn University</b> <i>Junior Researcher</i>	Tallinn, Estonia Sep 2019 – 2022
<b>Sharda University</b> <i>Assistant Professor</i>	Greater Noida, India Aug 2012 – Sep 2016

## AWARDS & ACHIEVEMENTS

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**Research award:** Best Demo Paper Award at the 13th Conference of Learning Analytics and Knowledge Conference, LAK'23, Arlington, Texas, USA

**Research award:** Honorable mention of research paper *Impact of window size on the generalizability of collaboration quality estimation models developed using Multimodal Learning Analytics* at the 13th Conference of Learning Analytics and Knowledge Conference, LAK'23, Arlington, Texas, USA

**Research award:** Special research award on combining teaching methodology and technology under ITL Ustus Agur Scholarship by Estonian Youth Board, Estonia.

**European Association of Technology-Enhanced Learning (EC-TEL) Scholarship:** Awarded by European Association of Technology-Enhanced Learning for attending EC-TEL summer school in Greece.

**Dora Plus Scholarship for foreign doctoral students:** Awarded to Ph.D. students based on their academic performance by the European Regional Development Fund and the Republic of Estonia.

**GATE Scholarship:** Awarded to graduate students who have scored high (my score:**93%tile**) on Graduate Aptitude Test in Engineering Exam by Ministry of Human Resource Development, India.

## PUBLICATIONS

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### 2024 |

- Chejara, P., Prieto, L. P., Dimitriadis, Y., Rodríguez-Triana, M. J., Ruiz-Calleja, A., Kasepalu, R., & Shankar, S. K. (2024). The impact of attribute noise on the automated estimation of collaboration quality using multimodal learning analytics in authentic classrooms. *Journal of Learning Analytics*.
- Chejara, P., Kasepalu, R., Prieto, L. P., Rodríguez-Triana, M. J., & Ruiz-Calleja, A. (2024). Bringing Collaborative Analytics using Multimodal Data to the Masses: Evaluation and Design Guidelines for Developing a MMLA System for Research and Teaching Practices in CSCL. In: LAK24: 14th International Learning Analytics and Knowledge Conference (pp. 800–806). ACM, New York NY United States, 2024

### 2023 |

- Chejara, P., Kasepalu, R., Prieto, L. P., Rodríguez-Triana, M. J., Ruiz-Calleja, A., & Schneider, B. (2023). How well do collaboration quality estimation models generalize across authentic schools contexts. *British Journal of Educational Technology*. doi: 10.1111/bjet.13402.
- Chejara, P., Prieto, L. P., Rodríguez-Triana, M. J., Ruiz-Calleja, A., Kasepalu, R., Chounta, I. A., & Schneider, B. (2023). Exploring Indicators for Collaboration Quality and Its Dimensions in Classroom Settings Using Multimodal Learning Analytics. In *European Conference on Technology Enhanced Learning* (pp. 60-74). Cham: Springer Nature Switzerland.
- Chejara, P., Prieto, L. P., Rodríguez-Triana, M. J., Ruiz-Calleja, A., Shankar, S. K., and Kasepalu, R. (2023). How to build more generalizable models for collaboration quality? lessons learned from exploring multi-context audio-log datasets using multimodal learning analytics. In: LAK23: 13th International Learning Analytics and Knowledge Conference (pp. 111–121). ACM, New York NY United States, Arlington Texas, 2023, p. 16.
- Chejara, P., Prieto, L. P., Rodríguez-Triana, M. J., Ruiz-Calleja, A., and Khalil, M. (2023). Impact of window size on the generalizability of collaboration quality estimation models developed using Multimodal Learning Analytics. In: LAK23: 13th International Learning Analytics and Knowledge Conference (pp. 559–565). ACM, New York NY United States, Arlington Texas, 2023. (**Best short paper nominee**)
- Kasepalu, R., Chejara, P., Prieto, L. P., & Ley, T. (2023). Studying teacher withitness in the wild: Comparing a mirroring and a guiding dashboard for collaborative learning. *International Journal of Computer-Supported Collaborative Learning (IJCSCL)* (in-press).
- Shankar, S. K., Ruiz-Calleja, A., Prieto, L. P., Rodríguez-Triana, M. J., Chejara, P., & Tripathi, S. (2023). CIMLA: A Modular and Modifiable Data Preparation, Organization, and Fusion Infrastructure to Partially Support the Development of Context-aware MMLA Solutions. *JUCS: Journal of Universal Computer Science*, (3).

### 2022 |

- Shankar, S. K., Rodríguez-Triana, M. J., Prieto, L. P., Ruiz-Calleja, A., & Chejara, P. (2022). CDM4MMLA: Contextualized data model for multimodal learning analytics. In *The Multimodal Learning Analytics Handbook* (pp. 205-229). Springer, Cham.
- Kasepalu, R., Chejara, P., Prieto, L. P., & Ley, T. (2022). Do Teachers Find Dashboards Trustworthy, Actionable and Useful? A Vignette Study Using a Logs and Audio Dashboard. *Technology, Knowledge and Learning*, 27(3), 971-989.

- Kasepalu R, Prieto LP, Ley T and Chejara P (2022) Teacher Artificial Intelligence-Supported Pedagogical Actions in Collaborative Learning Coregulation: A Wizard-of-Oz Study. *Front. Educ.* 7:736194. doi: 10.3389/educ.2022.736194

## 2021 |

- Chejara, P., Prieto, L. P., Ruiz-Calleja, A., Rodríguez-Triana, M. J., Shankar, S. K., & Kasepalu, R. (2021). Efar-mmla: An evaluation framework to assess and report generalizability of machine learning models in mmla. *Sensors*, 21(8), 2863.
- Chejara, P., Prieto, L. P., Rodríguez-Triana, M. J., Ruiz-Calleja, A., Shankar, S. K., and Kasepalu, R.(2021). CoTrack2:A Tool to Track Collaboration Across Physical and Digital Spaces with Real Time Activity Visualization. In: *Companion Proceedings 11th International Conference on Learning Analytics and Knowledge*. (Remote: LAK'11).

## 2020 |

- Chejara, P., Prieto, L. P., Rodríguez-Triana, M., Ruiz-Calleja, A., & Shankar, S. K. (2020). Cotrack: A tool for tracking collaboration across physical and digital spaces in collocated blended settings. In *Companion Proceedings of the 10th International Conference on Learning Analytics & Knowledge*.
- Shankar, S. K., Rodríguez-Triana, M. J., Ruiz-Calleja, A., Prieto, L. P., Chejara, P., & Martínez-Monés, A. (2020). Multimodal data value chain (m-dvc): A conceptual tool to support the development of multimodal learning analytics solutions. *IEEE Revista Iberoamericana de Tecnologías del Aprendizaje*, 15(2), 113-122.
- Chejara, P., Prieto, L. P., Ruiz-Calleja, A., Rodríguez-Triana, M. J., Shankar, S. K., & Kasepalu, R. (2020, September). Quantifying collaboration quality in face-to-face classroom settings using mmla. In *International Conference on Collaboration Technologies and Social Computing* (pp. 159-166). Springer, Cham.

## 2019 |

- Chejara, P., Prieto, L. P., Ruiz-Calleja, A., Rodríguez-Triana, M. J., & Shankar, S. K. (2019, September). Exploring the triangulation of dimensionality reduction when interpreting multimodal learning data from authentic settings. In *European Conference on Technology Enhanced Learning* (pp. 664-667). Springer, Cham.
- Shankar, S. K., Ruiz-Calleja, A., Prieto, L. P., Rodríguez-Triana, M. J., & Chejara, P. (2019, September). An architecture and data model to process multimodal evidence of learning. In *International Conference on Web-Based Learning* (pp. 72-83). Springer, Cham.

## 2018 |

- Chejara, P., & Godfrey, W. W. (2018, January). Machine learning based method to predict influence spread. In *2018 8th International Conference on Cloud Computing, Data Science Engineering (Confluence)* (pp. 268-273). IEEE.

## 2017 |

- Chejara, P., & Godfrey, W. W. (2017, November). Comparative analysis of community detection algorithms. In *2017 Conference on Information and Communication Technology (CICT)* (pp. 1-5). IEEE.

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## SKILLS

**Programming:** Python (numpy, pandas, scikit-learn, scipy, keras), R, MySQL

**Technologies:** Git

**Languages:** Hindi (Native), English (Professional), Spanish (Elementary)

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## COURSEWORK

**Major coursework:** Discrete Mathematics, Database Management Systems, Data Structure, Object Oriented Programming, Computer Organization and Architecture, Analysis of Algorithms, Operating System, Computer Networks, Unix Programming, Java Programming, Advance Java Programming, Parallel Programming