

# Irene-Angelica Chounta

PROFESSOR IN COMPUTER SCIENCE · COMPUTATIONAL METHODS IN MODELING AND ANALYSIS OF LEARNING PROCESSES

University of Duisburg-Essen, Department of Human-centered Computing and Cognitive Science, Germany

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## Education

### University of Patras

PHD IN ENGINEERING (HUMAN-COMPUTER INTERACTION)

• Advisor: Dr. Nikolaos Avouris

Patras, Greece

July, 2014

### University of Patras

DIPLOMA IN ELECTRICAL AND COMPUTER ENGINEERING (MSC EQUIVALENT)

Patras, Greece

2005

### ATEI Piraeus

BS UNDERGRADUATE DEGREE IN COMPUTER SYSTEMS ENGINEERING

Piraeus, Greece

2000

## Professional Experience

2023-  
present

**Professor (W2)**, University of Duisburg-Essen, Germany

2021-2023

**Junior Professor (Tenure-Track)**, University of Duisburg-Essen, Germany

2018-2021

**Assistant Professor**, University of Tartu, Estonia

2016-2018

**Postdoctoral Researcher**, HCII, Carnegie Mellon University, USA (Supervisor: Bruce M. McLaren)

2014-2016

**Postdoctoral Researcher**, University of Duisburg-Essen, Germany (Supervisor: Ulrich H. Hoppe)

2009-2014

**PhD Student/Researcher**, University of Patras, Greece

2005-2009

**Junior Researcher**, University of Patras, Greece

## Grants, Awards, Fellowships

2025	<b>Exploring the impact of AI-generated, adaptive prompts on students' understanding and learning of programming. (aiPROMPT)</b> , Incubator Grant, Research Center Trustworthy Data Science and Security	€80 000
2022	<b>Augmented Intelligence for Pedagogically Sustained Training and Education (augMENTOR)</b> , Integration of emerging new technologies into education and training, HORIZON-RIA HORIZON Research and Innovation Actions	€2 984 312, 50
2022	<b>Digital Readiness in European Higher Education Institutions: a Data-driven Framework Guided by Institutional and Instructional Analytics (DigiReady+)</b> , KA220-HED - Cooperation partnerships in higher education, Erasmus +	€325 000, 00
2019	<b>Personal Research Start-up Grant (Principal Investigator): PSG286 – "Combining Machine-learning and Learning Analytics to provide personalized scaffolding for computer-supported learning activities"</b> , Estonian Research Council	€167 375,00

## Selected Invited Talks

May, 2024: Invited keynote, The 18th EATEL Summer School on Technology Enhanced Learning 2024 (JTELSS 2024). Talk title: "Reflecting on the premise of Intelligent Tutoring Systems and Student Modeling for personalization and adaptation of learning."

July, 2023: Invited keynote, The 23rd IEEE International Conference on Advanced Learning Technologies (ICALT 2023). Talk

title: “Computational methods for modeling and analysis of learning: Opportunities and Challenges for Artificial Intelligence in Education and Learning Analytics.”

February, 2022: Invited talk, Institut für Informatik, Julius-Maximilians-Universität Würzburg (JMU), Germany. Talk title: “Towards personalized, adaptive scaffolding for technology-enhanced learning contexts with the use of learning analytics.”

October, 2020: Invited talk, Bernoulli Institute, University of Groningen, the Netherlands. Talk title: “Towards computational systems of human cognition for guiding multifaceted, personalized learning.”

July, 2020: Invited talk, Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI), Universität des Saarlandes, Germany. Talk title: “Using computational analytics to provide personalized, adaptive scaffolding in technology-enhanced learning contexts.”

February, 2020: Invited talk, Department of Computer Science and Applied Cognitive Science, University of Duisburg-Essen, Germany. Talk title: “From data traces to interventions: Computational Methods in Modeling and Analysis of Learning Processes”

September, 2019: Invited talk at the Learning and Educational Technologies Research Unit, University of Kyoto, Japan (Talk title: “Computational Learning Analytics for Personalized, Adaptive Feedback in Formal Education”)

May, 2019: Invited talk at the Institute for Business Informatics, Johannes Kepler University (Talk title: “Computational Learning Analytics to Provide Personalized, Adaptive Scaffolding”)

April, 2019: Invited talk at the Institute of Computer Science, University of Tartu (Talk title: “Using data analytics to provide personalized, adaptive feedback in educational contexts and beyond”).

December 2018: Invited talk at the European Schoolnet, Learning Research Exchange subcommittee (Talk title: Use of Artificial Intelligence and Machine Learning in OERs and educational portals)

August 2018: Invited talk at the IEEE Estonia Section Meeting at Jämeda, Estonia (talk title: “LA Tartu: Designing a Learning Analytics platform for the University of Tartu... and beyond!”)

October 2017: Invited talk at the ScienceEd meetings, University of Pittsburgh

September 2017: Invited talk at the HCII Seminar Talks

## DEMOS

## Selected Publications

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### PUBLISHED

Neubaum, G., Chounta, I.-A., Gredel, E., & Wiesche, D. (2025). A Pandemic for the Good of Digital Literacy? An Empirical Investigation of Newly Improved Digital Skills during COVID-19 Lockdowns. *Proceedings of the 2025 CHI Conference on Human Factors in Computing Systems*, 1–11. <https://doi.org/10.1145/3706598.3713148>

Chounta, I.-A., Ortega-Arranz, A., Daskalaki, S., Dimitriadis, Y., & Avouris, N. (2024). Toward a data-informed framework for the assessment of digital readiness of higher education institutions. *International Journal of Educational Technology in Higher Education*, 21(1). <https://doi.org/10.1186/s41239-024-00491-0>

Schulze Bernd, N., & Chounta, I. A. (2024, July). Beyond the Grey Area: Exploring the Effectiveness of Scaffolding as a Learning Measure. In *International Conference on Artificial Intelligence in Education* (pp. 365-378). Cham: Springer Nature Switzerland.

Chounta, I. A., Limbu, B., & van der Heyden, L. (2024). Exploring the Methodological Contexts and Constraints of Research in Artificial Intelligence in Education. In *International Conference on Intelligent Tutoring Systems* (pp. 162-173). Springer, Cham

Schulze Bernd, N., & Chounta, I. A. (2024). Beyond the Grey Area: Exploring the Effectiveness of Scaffolding as a Learning Measure. In *International Conference on Artificial Intelligence in Education* (pp. 365-378). Cham: Springer Nature Switzerland.

Schulten, C., & Chounta, I. A. (2024). How do we learn in and from Hackathons? A systematic literature review. *Education and Information Technologies*, 1-32.

Topali, P., Chounta, I. A., Martínez-Monés, A., & Dimitriadis, Y. (2023). Delving into instructor-led feedback interventions informed by learning analytics in massive open online courses. *Journal of Computer-Assisted Learning*.

- Holmes, W., Persson, J., Chounta, I. A., Wasson, B., & Dimitrova, V. (2022). Artificial intelligence and education: A critical view through the lens of human rights, democracy and the rule of law. Council of Europe.
- Aprin, F., Chounta, I.A., & Hoppe, H.U. (2022). "See the Image in Different Contexts": Using Reverse Image Search to Support the Identification of Fake News in Instagram-Like Social Media. In: Crossley, S., Popescu, E. (eds) Intelligent Tutoring Systems. ITS 2022. Lecture Notes in Computer Science, vol 13284. Springer, Cham. (best paper award)
- Chounta, I. A., Nolte, A. (2022). The CAT Effect: Exploring the Impact of Casual Affective Triggers on Online Surveys' Response Rates. In Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems
- Chounta, I. A., Bardone, E., Raudsep, A., & Pedaste, M. (2021). Exploring teachers' perceptions of Artificial Intelligence as a tool to support their practice in Estonian K-12 education. *International Journal of Artificial Intelligence in Education*, 1-31.
- Katz, S., Albacete, P., Chounta, I. A., Jordan, P., McLaren, B. M., & Zapata-Rivera, D. (2021). Linking Dialogue with Student Modelling to Create an Adaptive Tutoring System for Conceptual Physics. *International Journal of Artificial Intelligence in Education*, 1-49.
- Tanvir, H., Chounta, I-A. (2021) Exploring the Importance of Factors Contributing to Dropouts in Higher Education Over Time. *Proceedings of the 14th International Conference on Educational Data Mining (EDM 2021)*
- Nolte, A.; Chounta, I.A.; Herbsleb, J.D. (2020). What Happens to All These Hackathon Projects? - Identifying Factors to Promote Hackathon Project Continuation. *Proceedings of the ACM on Human-Computer Interaction*, 4 (CSCW2).
- Chounta I.A. (2019) Collaborative Learning and Patterns of Practice. In: Tatnall A. (eds) *Encyclopedia of Education and Information Technologies*. Springer, Cham
- Albacete, P., Jordan, P., Katz, S., Chounta, I. A., & McLaren, B. M. (2019). The Impact of Student Model Updates on Contingent Scaffolding in a Natural-Language Tutoring System. In *Artificial Intelligence in Education (AIED 2019)*.
- Chounta, I.A. (2019). Combining Machine Learning and Learning Analytics to Provide Personalized, Adaptive Scaffolding. In *Proceedings of 13th International Conference on Computer Supported Collaborative Learning (CSCL) 2019*.
- Chounta, I. A., Carvalho, P.F. (2019). Square it up! How to model step duration when predicting student performance. In *Proceedings of 9th International Conference on Learning Analytics & Knowledge*.
- Albacete, P., Jordan, P., Lusetich, D., Chounta, I. A., Katz, S., & McLaren, B. M. (2018). Providing Proactive Scaffolding During Tutorial Dialogue Using Guidance from Student Model Predictions. In *Artificial Intelligence in Education (AIED 2018)*.
- Chounta, I. A., Carvalho, P.F. (2018). Will time tell? Exploring the relationship between step duration and student performance. In *Proceedings of International Conference of the Learning Sciences, ICLS 2018*. International Society of the Learning Sciences
- Chounta, I. A., Albacete, P., Jordan, P., Katz, S., & McLaren, B. M. (2017). The "Grey Area": A Computational Approach to Model the Zone of Proximal Development. In *European Conference on Technology Enhanced Learning* (pp. 3-16). Springer, Cham.
- Chounta, I. A., McLaren, B.M., & Harrell, M. (2017). Building arguments together or alone? Using learning analytics to study the collaborative construction of argument diagrams. In B.K. Smith, M. Borge, E. Mercier, and K.Y. Lim (Eds.), *Proceedings of the 12th International Conference on Computer Supported Collaborative Learning (CSCL 2017)*. (pp. 589-592). Philadelphia, PA: International Society of the Learning Sciences.
- Hecking, T., Chounta, I. A., & Hoppe, H. U. (2016, April). Investigating social and semantic user roles in MOOC discussion forums. In *Proceedings of the Sixth International Conference on Learning Analytics & Knowledge* (pp. 198-207). ACM

## Teaching Experience \_\_\_\_\_

Spring,2022	<b>Intelligent Learning Environments</b> , Lecturer	<i>Duisburg</i>
Fall/ Spring,2021	<b>Praxisproject</b> , Lecturer	<i>Duisburg</i>
- Present Fall,2019- 2021	<b>Introduction to Learning Analytics</b> , Lecturer	<i>Tartu</i>
Spring,2019- 2021	<b>Research in Educational Technology</b> , Lecturer	<i>Tartu</i>
Spring,2020	<b>Quantitative methods in Educational Research (phD)</b> , Lecturer	<i>Tartu</i>

## Supervision

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2025- present	<b>Kaimao Sheng</b> , PhD, University of Duisburg-Essen
2022- present	<b>Lisa van der Heyden</b> , PhD, University of Duisburg-Essen
2021- present	<b>Cleo Schulten</b> , PhD, University of Duisburg-Essen
2019- present	<b>Mahesha Harshani De Silva</b> , PhD, Tallinn University
2018- present	<b>Tiiu Leibur</b> , PhD, University of Tartu

## Outreach & Professional Development

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### PROFESSIONAL MEMBERSHIPS

**International Artificial Intelligence in Education Society (IAIED), Executive Committee Member**, Program Co-Chair for AIED 2024, Publications Chair for the AIED Conferences 2021, 2022, 2023  
**International Society of the Learning Sciences (ISLS)**, Communications Committee Co-chair  
**Society for Learning Analytics Research (SoLAR)**, Member  
**ACM**, Member

### OUTREACH

**Council of Europe, DGII Education Department**, Provision of consultancy within the scope of Artificial Intelligence project [Report: "Artificial intelligence and education: A critical view through the lens of human rights, democracy and the rule of law"; Survey: "State of Artificial Intelligence and Education in Council of Europe Member States"; Council of Europe Working Conference October 2022]

### EDITORIAL BOARD

Educational Technology & Society (ET&S), **Associate Editor**

International Journal of Computer Supported Collaborative Learning (ijCSCL), **Editorial Board**

### PEER REVIEW

International Journals: ijAIED, JLA, Computers & Education, Journal of Computer Assisted Learning  
 International Conferences: LAK, ECTEL, CSCL, ICLS, AIED, CSCW, CHI

