

Universitatea Tehnică din Cluj-Napoca
Facultatea de Inginerie Industrială, Robotică și Managementul Producției
Departamentul Ingineria Proiectării și Robotică
Dr. ing., dipl. ec. Vasile-Dragoș Bartoș

LISTA LUCRĂRILOR ȘTIINȚIFICE
în domeniul disciplinelor din postul didactic

A – Teza de doctorat

„Cercetări privind integrarea metodelor de design inventiv în modele de inteligență artificială generativă pentru dezvoltarea sistemelor tehnice inteligente”

Conducător științific: Prof. dr. ec. dr. ing. Stelian Brad

Universitatea Tehnică din Cluj-Napoca

Susținere publică: 1 noiembrie 2024, calificativ Foarte Bine / Magna Cum Laude.

B – Cărți și capitole în cărți publicate în ultimii 10 ani

CĂRȚI

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CAPITOLE DE CARTE

1. Brad, S., **Bartoș, V. D.**, Brad, E., Trifan, C.-V. *Neuro-symbolic AI-driven inventive design of a benzoic acid extraction installation from Styrax resin*. In: World Conference of AI-Powered Innovation and Inventive Design (TFC 2024), IFIP Advances in Information and Communication Technology, vol. 735, Springer, 2025, pp. 66–87, doi: 10.1007/978-3-031-75919-2_5.
2. Brad, S., **Bartoș, V. D.** *AIInnovation — Integrating artificial intelligence and innovation in the design of intelligent technical systems*. In: New Advances in Mechanisms, Mechanical Transmissions and Robotics (MTM&Robotics 2024), Mechanisms and Machine Science, vol. 178, Springer, 2025, pp. 157–168, doi: 10.1007/978-3-031-87537-3_17.
3. Brad, S., Florian, V., Deeb, E., Balog, B., **Bartoș, V. D.**, Bodi, Ș., Stan, O. *Evaluating precision and repeatability of industrial robots using direct and indirect measurement approaches*. In: New Advances in Mechanisms, Mechanical Transmissions and Robotics (MTM&Robotics 2024), Mechanisms and Machine Science, vol. 178, Springer, 2025, pp. 169–180, doi: 10.1007/978-3-031-87537-3_18.

4. Brad, S., **Bartoș, V. D.**, Brad, E., Balog, B., Cîrlejan, A., Țicudean, D. *AI-driven inventive design and TRIZ for an affordable, high-efficiency solar tracking system*. In: World Conference of AI-Powered Innovation and TRIZ Methodology (TFC 2025), IFIP Advances in Information and Communication Technology, vol. 775, Springer, 2026, pp. 52–68, doi: 10.1007/978-3-032-08851-2_4.
5. Balog, B., Brad, S., Brad, E., **Bartoș, V. D.**, Țicudean, D., Cîrlejan, A.-G. *AI-driven robot programming optimization using TRIZ principles for efficient and seamless deployment*. In: World Conference of AI-Powered Innovation and TRIZ Methodology (TFC 2025), IFIP Advances in Information and Communication Technology, vol. 775, Springer, 2026, pp. 69–81, doi: 10.1007/978-3-032-08851-2_5.
6. Balog, B., Brad, S., Țicudean, D., **Bartoș, V. D.**, Chiș, I. A. *Cost-effective cable assembly fixtures in low-volume automotive production using 3D printing*. In: Additive Manufacturing Technologies (ICPTDI 2025), Springer Tracts in Additive Manufacturing, Springer, 2026, pp. 217–230, doi: 10.1007/978-3-032-21865-0_19.
7. Brad, S., Țicudean, D., Balog, B., **Bartoș, V. D.**, Stan, A. *Revitalizing additive manufacturing through AI-driven design and inventive strategies for next-generation 3D printing*. In: Additive Manufacturing Technologies (ICPTDI 2025), Springer Tracts in Additive Manufacturing, Springer, 2026, pp. 231–243, doi: 10.1007/978-3-032-21865-0_20.

C – Lucrări indexate ISI/BDI publicate în ultimii 10 ani

c1) Articole / studii publicate în reviste de specialitate de circulație internațională recunoscute (indexate BDI)

1. **Bartoș, V. D.**, Brad, S., Hapca, R. I. Systematic design method of UX using smart glasses for the effective application of augmented reality in digital production. *Acta Technica Napocensis – Series: Applied Mathematics, Mechanics, and Engineering*, vol. 64, no. II, 2021, pp. 275–292, ISSN 1221-5872.
2. Hapca, R. I., Brad, S., **Bartoș, V. D.** Experimental innovation to compensate positioning inaccuracies of industrial robots with high payload capacity. *Acta Technica Napocensis – Series: Applied Mathematics, Mechanics, and Engineering*, vol. 64, no. II, 2021, pp. 283–292, ISSN 1221-5872.
3. Brad, E., Trifan, C.-V., **Bartoș, V. D.**, Chiș, I. A., Stan, A. Enhancing CNC milling machine operator training with augmented reality smart glasses. *Acta Technica Napocensis – Series: Applied Mathematics, Mechanics, and Engineering*, vol. 66, no. 1S, 2023, pp. 123–130.
4. Țicudean, D., Brad, E., **Bartoș, V. D.**, Chiș, I. A. Evaluating 3D printing as a performance-driven alternative in medical reconstructions. *Acta Technica Napocensis – Series: Applied Mathematics, Mechanics, and Engineering*, vol. 68, no. 1S, 2025, pp. 217–226.

5. Brad, S., Brad, E., Balog, B., **Bartoș, V. D.**, Cîrlejan, A. Explorative AI for conceptual design and specification engineering of a multi-functional autonomous robotic platform for smart urban services. *Acta Technica Napocensis – Series: Applied Mathematics, Mechanics, and Engineering*, vol. 68, no. 1S, 2025, pp. 227–236.
6. Brad, S., Goia, D., Țicudean, D., Balog, B., Brad, E., **Bartoș, V. D.** A retrieval-augmented generation architecture for Pepper robot in industrial assistance. *Robotica & Management*, vol. 30, no. 1, 2025, pp. 4–11, doi: 10.24193/rm.2025.1.1.
7. **Bartoș, V. D.**, Brad, S., Balog, B., Cîrlejan, A., Țicudean, D. Enhancing production efficiency through Visual Components simulation in digital manufacturing systems. *Robotica & Management*, vol. 30, no. 1, 2025, pp. 38–43, doi: 10.24193/rm.2025.1.6.

c2) Studii publicate la conferințe indexate în baze de date internaționale de referință (DBLP, ACM, IEEE, SCOPUS)¹

(a se completa, dacă există proceedings indexate; capitolele din secțiunea B pot fi mutate aici dacă volumele Springer aferente sunt indexate Scopus)

D – Lucrări publicate în ultimii 10 ani în reviste și volume de conferințe cu referenți (neindexate)

Reviste

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Selecție cu maximum 20 lucrări în volume de conferințe

1. Brad, E., **Bartoș, V. D.**, Trifan, C.-V., Simori, E., Brad, S. Real-time vision-based object recognition for human-robot collaboration in manufacturing. *WASET Conference*, mai 8–9, 2025, Florența, Italia.
2. Brad, S., Țicudean, D., **Bartoș, V. D.**, Brad, E., Chiș, I. A. Evolutionary quality function deployment with integrated AI and system evolution planning for Industry 5.0. *13th International Symposium on Measurement and Quality Control*, septembrie 2–5, 2025, Cluj-Napoca, România.
3. Balog, B., Brad, S., **Bartoș, V. D.**, Brad, E., Țicudean, D. Optimizing cable clip placement with a Poka-Yoke approach for high-precision automotive assembly. *13th International Symposium on Measurement and Quality Control*, septembrie 2–5, 2025, Cluj-Napoca, România.
4. Brad, S., Țicudean, D., Balog, B., Cîrlejan, A., **Bartoș, V. D.**, Stan, A., Chiș, I. A. AI-augmented FMEA with anticipatory failure reasoning. *13th International Symposium on Measurement and Quality Control*, septembrie 2–5, 2025, Cluj-Napoca, România.
5. **Bartoș, V. D.**, Brad, S., Pop, G. M., Țicudean, D., Balog, B. G. Precision assessment and predictive compensation of ABB IRB 1600 robot using C-Track 780 optical tracking in

¹Indexate în: [IEEE] – IEEE Xplore; [ACM] – ACM Portal; [DBLP]; [SCOPUS].

smart manufacturing. *13th International Symposium on Measurement and Quality Control*, septembrie 2–5, 2025, Cluj-Napoca, România.

6. **Bartoș, V. D.**, Brad, S., Trifan, C.-V., Cîrlejan, A., Bodi, Ș. Comparative analysis of industrial and collaborative robot precision using optical metrology for smart manufacturing. *13th International Symposium on Measurement and Quality Control*, septembrie 2–5, 2025, Cluj-Napoca, România.

E – Brevete obținute pentru întreaga activitate

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Data

25.05.2026

Semnătura

Dr. ing., dipl. ec. Vasile-Dragoș Bartoș