Metin Alp Dogan

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Los Angeles, California

Education

University of California, Los Angeles — Los Angeles, CA
Doctor of Philosophy in Computer Science — *September 2026 - Present*
Specialization: Robot Learning and Artificial Intelligence

University of California, Los Angeles — Los Angeles, CA
Master of Science in Electrical & Computer Engineering, ***GPA:*** *4.0/4.0* — *September 2024 - June 2026*
Specialization: Signals and Systems (Fulbright Scholar)

Bogazici University — Istanbul, Turkey
Bachelor of Science in Electrical & Electronics Engineering, ***Top 10% of Class*** — *September 2020 - June 2024*
Specialization: Control Systems and Robotics

Publications

- **Visible Touch: Rendering Contact for Visuomotor Policies**
  Dogan, M. A., Sun, E., Xu, F., Wu, D., Peng, A., Hong, D., Cui, Y.
  (Spotlight) *CoRL, November 2026.* https://doi.org/10.48550/arXiv.2609.14156
- **Meta-Ctrl: Guaranteed Plan Generation by Decoupling Syntactic and Semantic Constraints**
  Yidou-Weng, G., Sun, E., Ma, Ti., **Dogan, M. A.**, Wang, B., Peng, A., Van den Broeck, G., Cui, Y.
  (Spotlight) *CoRL, November 2026.* https://doi.org/10.48550/arXiv.2608.22149
- **Pangolin-Inspired Untethered Magnetic Robot for On-Demand Biomedical Heating Applications**
  Soon, R. H., Yin, Z., **Dogan, M. A.**, Dogan, N. O., Tiryaki, M. E., Karacakol, A. C., Aydin, A., Esmaeili-Dokht, P., Sitti, M.
  Nature Communications, June 2023. https://doi.org/10.1038/s41467-023-38689-x

Experience

UCLA - Robot Intelligence Laboratory — Los Angeles, California
Graduate Student Researcher — *September 2024 - Present*

- Conducting research under **Prof. Yuchen Cui** on asynchronous inference and stale-action execution in diffusion and VLA policies (pi0/pi0.5); evaluated execution-reference anchoring, improving simulated visuomotor manipulation success from 26.5% to 58.5% under 600 ms inference latency.
- Developed execution-supervised Transformer critics for robot program generation using Qwen2.5-Coder-7B; trained a 42M-parameter critic on 52K generated programs, improving execution-outcome prediction AUROC from 0.76 to 0.91, and investigated critic-guided program synthesis and repair.
- Contributed to **DARPA-funded** project under **Prof. Guy Van den Broeck**, applying Hidden Markov Models and Bayesian inference to probabilistic reasoning in language and sequential decision systems.

Bogazici University - Automatic Control and Microprocessors Laboratory — Istanbul, Turkey
Undergraduate Research Assistant — *September 2023 - July 2024*

- Conducted research on control algorithms like LQR, FSF, and PID for a rotary inverted pendulum, actively involved in the assembly and testing process under the guidance of Prof. Kemal Ciliz and Prof. Mehmet Akar.
- Presented a comparative assessment of experimental and simulation results for these control algorithms using Simulink and MATLAB, highlighting their performance and effectiveness.

Max Planck Institute for Intelligent Systems — Stuttgart, Germany
Undergraduate Research Assistant at Physical Intelligence Department — *July 2022 - September 2022*

- Supervised by **Prof. Metin Sitti**, modeled complex non-linear dynamics of magnetically actuated systems to bridge the simulation-to-reality gap. Third author on a Nature Communications publication resulting from this work.
- Engaged in the 3D segmentation of tumor cells visible in brain MRI scans using medical image analysis programs, including FSL and MITK, with the implementation facilitated through Python.

ISBAK (Istanbul IT and Smart City Technologies) — Istanbul, Turkey
Hardware & Embedded Software Engineering Intern — *July 2021 - August 2021*

- Developed scripts using OpenCV and TensorFlow to enhance and evaluate learning models for efficient recognition of license plates and faces, contributing to reductions in run time and model optimization.
- Participated in the testing phase, including EMI and EMC testing, of the initial prototype for a smart pedestrian crosswalk using PSPICE, an IoT-based project developed by the company for use in the streets of Istanbul.

Scholarships and Fellowships

- UCLA Departmental Fellowship (1 year, starting from 2026 Fall, $80,000 in total)
- Fulbright Scholarship (2 years, starting from 2024 Fall, $120,000 in total)
- Elginkan Foundation High-School Merit-Based Partial Scholarship (4 years, $15,000)

Highlights

- Ranked in the **top 0.1% nationally** in the 2019 YKS (Turkish University Entrance Exam; ∼3 million candidates).
- Awarded the **Plaque of Honor** by Prof. Mehmet Karaca (President of Istanbul Technical University) for achieving the highest YKS (Turkish SAT) score under the ITU Development Foundation (2019).
- Placed in the **top 25%** in the University of Waterloo **Pascal and Fermat Mathematics Contests** (2016, 2018).

Teaching Experience

- Graduate Reader for EC C247A and C247B - Neural Networks & Deep Learning at UCLA
- Teaching Assistant for EE 450 - Control Technology & Design at Bogazici University

Extracurricular Activities

- **Fulbright Ambassador (September 2025 – Present)**: Selected representative of the Fulbright Program at UCLA, delivering regular presentations to U.S. students and faculty to promote international exchange, collaborative research opportunities, and cross-border academic partnerships.
- **Graduate Student Representative, Turkish Student Association at UCLA (September 2025 – Present)**: Serve as a liaison for Turkish graduate students, organizing recruiting, networking, and cultural events to foster academic, professional, and cross-cultural engagement within the UCLA community.
- **President, IEEE Club at BU (February 2021 - June 2023)**: Led the event organization committee to connect 100 university students with executives from various fields & internship opportunities, and to hold regular meetings about programming and soft-skill training.
- **Consultant, 180 Degrees Consulting (March 2023 – December 2023)**: Led socio-economic impact analysis and donation allocation strategy for Genç Hayat Foundation to mitigate seasonal child labor; contributed to financial sustainability planning and program-scale expansion.
- **Founding Core Member, ITU RoBEE Robotics Club (September 2017 – June 2019)**: Co-founded the robotics club and instructed weekly technical sessions on pneumatic systems, mechanics, electrical circuits, actuators, and embedded programming.
- **Volunteer English Voiceover, Altı Nokta Körler Vakfı (February 2017 – June 2017)**: Volunteered as an English voice instructor for visually impaired individuals and assisted with accessibility-focused educational documentation and charity-related administrative work.
- **Official Member, TEMA Foundation (July 2016 – Present)**: Served as a school-level environmental representative during high school; designed awareness materials on deforestation and recycling and participated in periodic long-term environmental outreach initiatives.

Skills & Interests

- **Related Coursework:** Optimization Theory, Linear System Theory, Matrix Analysis, Measure Theory, Statistical Methods of Machine Learning, Large-Scale Data Mining: Models and Algorithms, Large-Scale Social and Complex Networks: Design and Algorithms, Neural Networks and Deep Learning, Advanced Neural Networks and Deep Learning, Fundamentals of Artificial Intelligence, Numerical Methods, Neural Signal Processing and Machine Learning, System Dynamics and Control, Signals and Systems, Robot Control, Control Technology & Design, Digital System Design, Data Science, Advanced Topics in Computer Science: Agentic Software Engineering
- **Programming Languages:** Python, C/C++, MATLAB, R, LaTeX
- **Computer Programs and Tools:** Robot Operating System, PyTorch, MuJoCo, Simulink, SPICE
- **Languages:** Turkish (Native), English (TOEFL iBT 113/120 — R:30, L:30, W:27, S:26), Spanish (Beginner)
- **Interests:** Aikido, basketball, tennis, hiking, traveling, skiing, bodybuilding, volunteering

References

- **Prof. Yuchen Cui -** Robot Intelligence Laboratory Director, Assistant Professor at Computer Science Department, UCLA
  Contact: yuchencui@cs.ucla.edu
- **Prof. Guy Van den Broeck -** Statistical and Relational Artificial Intelligence Laboratory Director, Professor at Computer Science Department, UCLA
  Contact: guyvdb@cs.ucla.edu
- **Prof. Jonathan Kao -** Neural Engineering and Computation Laboratory Director, Associate Professor at UCLA
  Contact: kao@seas.ucla.edu
- **Prof. Metin Sitti -** Former Director of Physical Intelligence Department of the Max Planck Institute for Intelligent Systems, President of Koç University, Professor at ETH Zurich, Honorary Professor at University of Stuttgart
  Contact: officesitti@is.mpg.de