Mohammad Mostafavi, Ph.D.

AI Executive & Principal Scientist | Computer Vision & Computational Pathology - Seoul, South Korea

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EXECUTIVE SUMMARY

Award-winning AI Researcher and Technical Leader with over 10 years of experience bridging cutting-edge Computer Vision (Neuromorphic/Generative AI) and Clinical Pathology. Proven track record of guiding R&D from theoretical conception to product deployment (Lunit SCOPE). Expert in building cross-functional teams, managing IP portfolios (3 Patents), and publishing in top-tier venues (CVPR, TPAMI, Nature npj). Seeking to leverage deep technical expertise and strategic vision as a CTO, VP of AI Research, or Principal Investigator.

CORE COMPETENCIES

- **Technical Leadership:** R&D Strategy, Product Roadmap Execution, Cross-functional Team Management, Tech Transfer & Commercialization.
- **AI Specializations:** Generative Models (Diffusion/GANs/Flow Matching), Event-based Vision, Computational Pathology, Medical Image Analysis, 3D depth, Superresolution.
- **Business & Ops:** Startup Incubation (OASIS Program), IP Strategy, Stakeholder Engagement, Venture Fundraising Support.

PROFESSIONAL EXPERIENCE

InnoCORE Program (Seoul National University in collaboration with **KAIST, DGIST)** | South Korea **Postdoctoral Research Fellow** | *Mar 2025 – Present Selected for the prestigious government-funded Innovation + Core Researchers program to lead advanced AI initiatives across top Korean institutes.*

- **Research Focus:** Pioneering next-generation generative models for image-to-image translation and spiking neural networks for depth estimation from event cameras.
- **Leadership:** Mentoring graduate students and collaborating across multiple labs (SNU-MPR, KAIST-VI, DGIST-CVL), resulting in 3 collaborative paper submissions in the first year.
- **Impact:** Developing advanced methods for efficient image-to-image translation with minimal resources and fewer evaluations.

Medical University of Isfahan (MIU-MISP) | Isfahan, Iran **Postdoctoral Researcher, AI Lead** | *Jun 2024 – Feb 2025*

- **Curriculum Development and Implementation:** Designed and delivered the university's first "AI in Ophthalmology" and related AI curricula for medical practitioners and faculty.
- **Advisory:** Served as primary technical advisor to faculty and medical students on AI integration and applications in clinical workflows (ophthalmology, pathology, cardiology).

Lunit Inc. | Seoul, South Korea **Team Leader & Senior Research Scientist (Oncology AI)** | *Jun 2021 – Mar 2024*

- **Product Leadership:** Directed the specialized R&D unit contributing to the Lunit SCOPE suite; directly influenced 4 of 8 product development cycles, translating research models into CE-marked clinical tools and pharma-ready workflows.
- **Strategic Innovation:** Conceptualized and co-developed "Universal IHC" models (*Nature npj Precision Oncology 2024*), enabling generalized cancer cell classification across multiple cancer types and immunostains, later extended with sub-cellular segmentation (patent).
- **Performance Engineering:** Engineered core algorithms (cell detection, tissue segmentation), IO & PD-L1, achieving state-of-the-art performance in internal evaluations and external pharma pilots.

- **Cross-Functional Management:** Drove collaboration between Pathology, Biomedical Engineering, Product, and Business Development teams to align technical roadmaps with business goals.
- **IP & Eminence:** Generated key intellectual property (2 patents, KR/US) and strengthened the company's academic presence through publications, abstracts, and seminars.

Gwangju Institute of Science and Technology (GIST) | Gwangju, South Korea **Research Assistant (Ph.D. Candidate)** | *Sep 2015 – Jun 2021*

- **Innovation:** Pioneered novel event-based vision architectures for image reconstruction, super-resolution, and depth estimation.
- **Achievement:** Ranked **#1 Globally** in the CVPR Workshop Event-based Vision Competition (2021).
- **Collaboration:** Led cross-lab and international collaborations resulting in high-impact publications in TPAMI, IJCV, and CVPR (including oral presentation)

HONORS & AWARDS

- **Presidential Excellence Award** – Best Ph.D. Dissertation, GIST (2021)
- **1st Place, CVPR Workshop** Event-based Vision Competition (2021)
- **Outstanding Research Assistant** Award, GIST (2020)

PROFESSIONAL SERVICE & LEADERSHIP

- **Reviewer:** CVPR, ECCV, ICCV, ICML, MICCAI, IJCV, and IEEE Transactions.
- **Challenge Organizer:** OCELOT (Cell Detection from Cell-Tissue Interaction, MICCAI 2023) and Advances in Neuromorphic Vision (ICME 2024).
- **Open Source:** Maintained widely referenced GitHub repositories from CVPR/TPAMI papers (e.g., E2SRI and event-based stereo depth codebases, 50+ stars).

EDUCATION

- **Ph.D. in Electrical Engineering & Computer Science (AI Track)** | GIST, South Korea | *2021*
  - *Distinction:* Presidential Excellence Award (Best Dissertation)
  - *Advisors:* Prof. Jonghyun Choi (GIST, now at SNU) & Prof. Kuk-Jin Yoon (KAIST)
- **M.Sc. in Electrical Engineering** | Hakim Sabzevari University, Iran | *2014*

SELECTED PUBLICATIONS & PATENTS - *Total Citations: 700+ | h-index: 10*

- **US Patent (2025):** Method and Apparatus for Analyzing Pathological Slide Images (Lunit).
- **Korea Patent (2024):** AI Model for IHC Stained Image Analysis (Lunit).
- **Korea Patent (2020):** Method and Apparatus for Generating Super-Resolved Intensity Images (GIST).
- **Nature npj Precision Oncology (2024):** "A universal immunohistochemistry analyzer for generalizing AI-driven assessment..." (Co-first author, Lunit).
- **CVPR 2022:** "Stereo Depth from Event Cameras: Concentrate and Focus on the Future."
- **TPAMI 2021:** "E2SRI: Learning to Super-Resolve Intensity Images from Events" (IF 24.31).
- **CVPR 2020 (Oral):** "Learning to Super Resolve Intensity Images from Events" (Top 5% acceptance).

TECHNICAL & MANAGERIAL SKILLS

- **Core AI Stack:** PyTorch, TensorFlow, OpenCV, Generative Models (Diffusion, GANs), SNNs.
- **Development:** Python, C++, MATLAB, Docker, Linux, CUDA, Git, GCP.
- **Management:** Agile/Jira, Confluence, Strategic Roadmap Planning, Notion.
- **Languages:** English (Bilingual/Fluent), Farsi (Native), Korean (Intermediate).