Hamed Rahmani

PhD Candidate, Economics and Management
Maastricht University / UNU-MERIT

(+31) 638187758

Maastricht, Netherlands

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linkedin.com/in/hamerhn

Dear Selection Committee,

I am writing to apply for the 2026 NBER Innovation Research Boot Camp. I am a PhD candidate in Economics and Management at Maastricht University and UNU-MERIT, expecting to complete my dissertation in late 2025.

My research examines youth labor market exclusion in Iran using machine learning methods. The work has produced six peer-reviewed publications and presentations across three continents. But it has also revealed a gap in my training. I can explain who gets excluded from labor markets. I cannot yet explain why economies fail to create jobs for educated youth in the first place. The question of why human capital investment doesn't translate into employment leads directly to the field of innovation economics.

I want to understand the supply side. How do weak innovation systems produce labor market exclusion? Can innovation policy be designed with employment outcomes in mind? What distinguishes economies that absorb educated workers from those that waste them? The NBER Boot Camp would give me the theoretical foundations, empirical methods, and research community to pursue these questions.

My recommendation letter will be provided by Professor Wim Groot, my PhD supervisor at Maastricht University (w.groot@maastrichtuniversity.nl, +31 433884400). He has supervised my dissertation research and can speak to my academic preparation and research potential.

Enclosed please find my curriculum vitae, list of completed PhD courses, and one-page research essay. Please do not hesitate to contact me if you require any additional information.

Thank you for considering my application.

Sincerely,

Hamed

Innovation Without Inclusion: Why Weak Innovation Systems Fail Educated Youth in the Global South

Abstract:
Something strange is happening in developing countries. Governments expanded universities. Families sacrificed to send their children. Young people earned degrees at unprecedented rates. Then they graduated into economies with nothing for them.

My dissertation research in Iran captures this paradox in data. Using machine learning methods on labor force surveys, I've mapped who becomes NEET not in education, employment, or training. The findings defy conventional wisdom. Education doesn't protect young people. For women in urban areas, a university degree actually increases the risk of disconnection. The economy produces graduates it cannot absorb.

Standard explanations point to skills mismatch. Young people studied the wrong things. They lack what employers need. This framing places blame on individuals. My data suggests the problem lies elsewhere.

Iran tripled university enrollment in two decades. It did not triple its innovation capacity. Firms operate with outdated technologies. Industries haven't upgraded. R&D investment remains thin. The economy grows when sanctions allow through oil exports and construction, not through productivity gains or technological upgrading.

The result is credential inflation. Degrees multiply. Quality jobs don't. Young people compete for a stagnant pool of formal employment while millions cycle through informal work or give up entirely.

I've documented who loses this competition. I cannot yet explain why the competition exists why economies fail to generate demand for the human capital they produce. That question leads directly to innovation economics.

I want to understand the innovation side of youth exclusion. Three questions drive this agenda:

First, how do weak innovation systems produce labor market exclusion? My data shows that regional economic conditions dominate individual characteristics in predicting NEET status. Regions differ in firm density, technological capability, and industrial composition. I want to understand how these innovation-related factors translate into employment outcomes. Second, can innovation policy address youth unemployment? Policymakers design innovation interventions to boost productivity and growth. Employment effects are usually afterthoughts or assumed to follow automatically. I want to examine whether innovation policy can be designed with inclusion in mind. Third, what institutional configurations allow economies to absorb educated youth rather than waste them? Some countries have built innovation systems that create demand for human capital. Others invested in education while neglecting the productive capacity to put it to use. Comparative analysis could identify what distinguishes success from failure.

My training is in labor economics and applied econometrics. I can model exclusion. I cannot yet model the innovation failures that produce it. The NBER Boot Camp would provide foundational knowledge in innovation economics theories, institutions, empirical methods that

my PhD program doesn't offer. I want to learn how innovation economists think about firm dynamics, R&D policy, and technological change, then bring those tools back to questions of labor market inclusion.

Youth unemployment in the Global South sits at the intersection of human capital and innovation systems. We cannot solve it by training workers for jobs that don't exist. We need economies that innovate and grow in ways that include the young people they educate. I want to understand how that happens.

Hamed Rahmani

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Home: Maastricht (Netherlands) **Phone number:** (+31) 638187758 ORCID: 0000-0001-7002-3433

ABOUT ME

Internal PhD Candidate at Maastricht University / UNU-MERIT with a strong track record in **systematic desk research** and economic policy analysis. Expert in building **structured databases** and conducting rigorous qualitative and quantitative analysis (6 published/under-review articles). Highly organized researcher with industry experience in operations efficiency (DHL, IranKhodro), perfectly aligned with understanding how firms "repurpose operations during crises." Multilingual, flexible, and ready to support the SBE team immediately.

EDUCATION

PhD candidate in Economics and development

Maastricht University and UNU MERIT [01/02/2021 - 30/10/2025]

City: Maastricht | **Country:** Netherlands | **Thesis:** Risk Factors of Being a Youth Not in Education, Employment or Training (NEET) using machine learning (Supervisors: Prof. Wim Groot, Dr. Jelena Arsenijevic)

M.Sc in Operation Research

Allameh Tabataba'i University [01/09/2016 - 01/09/2019] (GPA:3.8/4)

City: Tehran | **Country:** Iran | **Thesis:** Clustering and Classification of Job Seekers' Talents and The Prediction Employers' Requirements in the Labor Market Using Data Mining (Supervisors: Dr. Iman Raeisi, Dr J BamdadSoofi)

B.Eng in Industrial Engineering

Khajeh Nasir Toosi University of Technology [01/09/2011 - 01/12/2016] (GPA:3.4/4)

City: Tehran | **Country:** Iran | **Thesis :** A State-Based Approach to Modeling Air Accidents and Helicopter Accidents

PUBLICATIONS

[2025]

Analysing the Macroeconomic Determinants of NEET Youth in Iran: A Spatial Panel Data Approach.

Rahmani, H., Groot, W., Arsenijevic, J & Rahmani, A. M. (2024). Int J of Economic Change and Restructuring, under review.

[2024]

Unravelling the NEET Phenomenon: A Systematic Literature Review and Meta-analysis of Risk Factors for Youth Not in Education, Employment, or Training.

Rahmani, H., Groot, W., & Rahmani, A. M. (2024). Int J of Adolescence and Youth, 29(1), 2331576.

[2024]

Dropout in online higher education: A systematic literature review

Rahmani, A.M., Groot, W. & Rahmani, H. Int J Educ Technol High Educ 21, 19 (2024).

[2023]

Risk factors of becoming NEET youth in Iran: A machine learning approach

Rahmani, H., & Groot, W. (2023). Int J of Economics and Management Engineering, 17(11), 765-773.

[2023]

Risk factors of being a youth not in education, employment or training (NEET): A scoping review

Rahmani, H., & Groot, W. (2023). International Journal of Educational Research, 120, 102198.

[2023]

A predictive analytics solution matching job seekers' talent and employers' demands based on machine learning

[2021]

A State-Based Approach to Modeling Air Accidents Caused by Loss of Flight Control

M Dehghani, H Rahmani, SM Mirhosseini, Journal of Aeronautical Engineering 22 (2), 157-170

CONFERENCES AND SEMINARS

[17/09/2025 – 19/09/2025] The University Hamburg Institute for Social Research
Rethinking Fiscal and Monetary Coordination: Policy Trade-offs in Times of Polycrisis Granted and invited to participate

[08/09/2025 – 13/09/2025] Prague University of Economics and Business
WINIR Young Scholars Preconference on Innovation, Institutions, and Entrepreneurship Granted and invited to participate in this workshop

[01/04/2025 – 03/04/2025] The University of Leeds, United Kingdom
Postgraduate Workshop on Advanced Research Methods Granted and invited to participate in this workshop

[27/02/2025 – 28/02/2025] University of Helsinki, Finland
Development Days Conference 2025 (Development Transitions) Granted and invited to present my work and article

[21/10/2024 – 22/10/2024] Xi'an Jiaotong-Liverpool University, Suzhou, China
China-Southeast Asia Sustainable Development Workshop (C-SEASD) Granted and invited to present my work and article

[12/09/2024 – 13/09/2024] Universiti Malaya, Kuala Lumpur, Malaysia
Workshop on Southeast Asia Economic Development in the Post-Pandemic Era Granted to present my work and article

[23/07/2024 – 08/08/2024] Campinas University, Campinas, Brazil
São Paulo Advanced School on Technology & Innovation Strategies and Policies for Economic Development Granted and invited to present my work and article

[03/07/2024 – 07/07/2024] Luiss Guido Carli University, Rome, Italy
Ph.D. Summer School on European Industrial, Innovation and Trade Policy in the Era of Strategic Autonomy Granted and invited to present my work and article

[01/06/2023 – 02/06/2023] Université Laval à Montréal, Montreal Canada
Labor Market Reforms and Social Policies Conference Best Presentation Award Labor Market Reforms and Social Policies

[30/03/2023 – 31/03/2023] KU Leuven, Leuven, Belguim
8th LEER International Conference on Education Economics Participation to present article and poster

WORK EXPERIENCE

General Ledger Accountant
Medtronic [15/07/2024 – now]

City: Heerlen | **Country:** Netherlands

– Managed complex financial data with high precision, ensuring accuracy in reporting and compliance.

– Demonstrated flexibility and proactivity in streamlining month-end close processes.

Financial Data Analyst
DHL [01/09/2021 – 31/12/2023]

City: Maastricht | **Country:** Netherlands

– Analyzed market data to optimize pricing strategies, requiring a deep understanding of operational adjustments to market changes.

– Built structured reports and maintained database integrity for EMEA region pricing.

Inventory Analyst
IranKhodro Co [01/08/2018 – 31/12/2020]

City: Tehran | **Country:** Iran

– Analyzed production and warehouse data to identify inefficiencies, directly relevant to repurposing operationsand improving throughput.

– Redesigned inventory processes to adapt to supply chain constraints (crisis management context).

Committee and Memberships

Journal Reviewer

- International Journal of Adolescence and Youth
- Health & Social Care in the Community
- BMC Public Health
- American Journal of Education and Learning
- Economia politica Journal
- Cogent Arts & Humanities
- Children and Youth Services Review
- Journal of Information Policy

Capacity Development Fellow of BRICS research institute

Durban University of Technology, South Africa

Editorial Borad Member

- Journal Applied Psychology Research
- Journal of Business and Economic Development

LANGUAGE SKILLS

Mother tongue(s): Persian **Other languages:** English (Bilingual), Dutch (basic,A2)

Teaching Experience

(2021-2024)
Introductory Data Science and Statistics, Regression Analysis, Operations research, supervising Master's/Bachelor's theses

Grants and Awards

Fully funded place at the National Organization for Development of Exceptional Talents School (2008)

DIGITAL SKILLS

SAP / HANA4 / AWS Cloud architect / Data Processing / Data analysis / Data Visulization / Microsoft Office / Python / SQL / Power Apps, Power Automate, Power Flow, Power BI / Systematic Literature Review, Meta-analysis, Desk Research, Fieldwork/Detail-oriented, Crisis/Risk Analysis, Operations Mapping, Project Management

HOBBIES AND INTERESTS

Music, Networking, Traveling, Doing sports activities, Learning new skills, Volunteering, Mentoring.

DIGITAL IDENTIFIERS

ORCID: 0000-0001-7002-3433 ResearcherID: JCD-5705-2023

REFERENCES

Professor Wim Groot

Tongersestraat 53, 6211 LM Maastricht

(31) 433884400

w.groot@maastrichtuniversity.nl

Professor Mahmoud AliofKhazraei

4202 E Fowler Ave, Tampa, FL 33620, United States

(98) 9126905626

maliofkh@gmail.com

khazraei@modares.ac.ir

Dr Jelena Arsenijevic

Kriekenpitplein 21-22 Kamer 1.10

3584 EC Utrecht

j.arsenijevic@uu.nl

UNITED NATIONS UNIVERSITY

UNU-MERIT

Maastricht University

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NL-6200 MD Maastricht
T +31(0)43 - 388 4400
E info@merit.unu.edu
www.merit.unu.edu

Your reference	Our reference	Direct Line	Maastricht
	GPAC2 2025.092	+31-43-388 4449	26 September 2025

Dear Madam, Sir

We hereby certify that Mr. Hamed Rahmani is enrolled in the PhD Programme in Governance and Policy Analysis (GPAC2) of the UNU-MERIT/ Maastricht University, the Netherlands. His enrollment started on 01/02/2021.

Hamed Rahmani is in fourth year of PhD Programme, his project topic is "Risk factors of becoming NEET youth" and Mr. Hamed Rahmani will present his research progress to us.

On behalf of the GPAC2 programme committee,

Dr Micheline Goedhuys,
PhD Programme Director



Maastricht University | Maastricht UMC+

Faculty of Health, Medicine and Life Sciences

Department of Health Services Research

Focusing on Value-based Care and Ageing

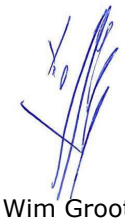
To Whom It May Concern

Your reference	*Our reference*	*Direct line*	*Maastricht*
-	LoR H.Rahmani	+31 43 38 81727	Feb 06, 2026

Subject: recommendation letter for Hamed Rahmani

I am writing to recommend Hamed Rahmani for the 2026 NBER Innovation Research Boot Camp. I have supervised Hamed's doctoral research at Maastricht University and UNU-MERIT since 2021.
Hamed's dissertation applies machine learning methods to understand youth labor market exclusion in Iran. The work is technically strong he handles classification trees, probit models, and large survey datasets with skill.
His systematic reviews of NEET risk factors is already published in the International Journal of Educational Research and International Journal of Adolescence and Youth. Six peer-reviewed publications during his PhD.
His interest in innovation economics is genuine, not opportunistic. Our conversations over the past year have increasingly turned to why developing economies fail to absorb educated workers. His training is in applied microeconometrics; He needs exposure to innovation economics to pursue this research agenda. The NBER Boot Camp would fill that gap.
Hamed is intellectually curious, works independently, and finishes what he starts. He would benefit from this program and contribute to it.
He is highly recommended for this Boot camp.
Sincerely,

Sincerely,



Wim Groot
Professor of health economics and professor of evidence based education
Maastricht University
Email: w.groot@maastrichtuniversity.nl

Maastricht University | Maastricht UMC+

Faculty of Health, Medicine and Life Sciences

Department of Health Services Research

Focusing on Value-based Care and Ageing

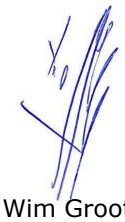
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Sincerely,



Wim Groot
Professor of health economics and professor of evidence based education
Maastricht University
Email: w.groot@maastrichtuniversity.nl