

名古屋大学 大学院情報学 研究科長 殿
To: Dean of Graduate School of Informatics, Nagoya University

研究報告書

RESEARCH REPORT

滞在期間における研究報告書を、添付のとおり提出いたします。
This is the cover page of my attached research report.

A. Cover Page

1. 被招へい研究者 所属・職・氏名 Affiliation (Country / Area), Position, Name of Visitor Hamid Krim, North Carolina State University (NCSU), Engineering/Informatics?AI-ML
2. 受入研究者 所属・職・氏名 Affiliation, Position, Name of Host ECE Dept./CSC Dept., Visiting Professor, Prof. K. Fujii.
3. 滞在中の研究テーマ Research Theme during the Visit Machine Learning and Artificial Intelligence in Sports Analytics, Causal Decision Making and Neuro-Inspired Learning
4. 滞在期間 Period of Visit <u>2025年9月1日 ~ 2025年12月26日</u> From (Year/Month/Day) To (Year/Month/Day)
5. 招へい教員の主な研究テーマ Main Research Themes of the Visitor Machine Learning and Mathematical Signal/Image Processing
6. 招へい教員の個人ページなどへのリンク Link (URL) to the Personal (or Project) Page of the Visitor www.ece.ncsu.edu/people/ahk

(注) 「研究報告書」には、被招へい研究者の研究活動や講義等の写真を添付してください。なお、「研究報告書」(セクションA, B, C)及び写真は Web サイト等で公開される場合があります。個々の写真の公開を拒否される場合は、その旨記載して下さい。
Please select pictures which were taken when the visitor conducted his/her research or provided a lecture, and attach it to in this report. We may later upload the reports (sections A, B, and C) and/or pictures on our Web site. If the visitor does not want to have the picture(s) posted on our Web site, please indicate so per picture.

B. Research Activities (to be published at the Faculty Web Site)

1. 滞在中の共同研究テーマや(可能なら)成果の紹介

Brief Introduction of the Joint Research and Result (if possible) during the Visit

Research activities entailed the development of a macro-scale approach to Sports/Football game quality assessment. While Existing State of the Art approaches address this topic with a tremendous amount of technical details, the goal here was to achieve the result a “human spectator” would ordinarily come to without having to necessarily account for all the detailed information typically present in a game. This in a way, achieves a “smart” integration of all the technical details of a game into a decision of a “Team A better than Team B”, “Game A is of better quality than Game B” . This would also provide a valuable tool to help coaching staff of Football teams. All the results were shared with Dr. Fujii’s Lab. and a student with the hope that thorough testing ensues and a paper be published. This collaboration is ongoing and Dr. Krim remains in touch with Dr. Fujii as well as with the student.

Dr. Krim has also worked with Prof. Fujii’s student whose goal was to inject causality in decision making. This collaboration is also active with a paper getting submitted in this month of January 2026.

At the tail end of Dr. Krim’s visit, he has made some progress on the Neuro-Inspired learning which was part of the planned research with the ideas described in a white paper dating back to 2023. The results although preliminary, and basic show great promise for Learning with Reasoning, the wholly grail of learning.

2. 滞在中に訪問した研究者

Researcher(s) Visited during the Stay

Dr. Kostas Slavakis from University of Tokyo in Yokohama.

3. 滞在中に参加したワークショップなど

Workshop/Symposium/Conference Attended during the Visit

European International Conference on Signal Processing (EUSIPCO-2025) in Palermo Italy.

C. Life in Nagoya/Life in Japan (to be published at the Faculty Web Site)

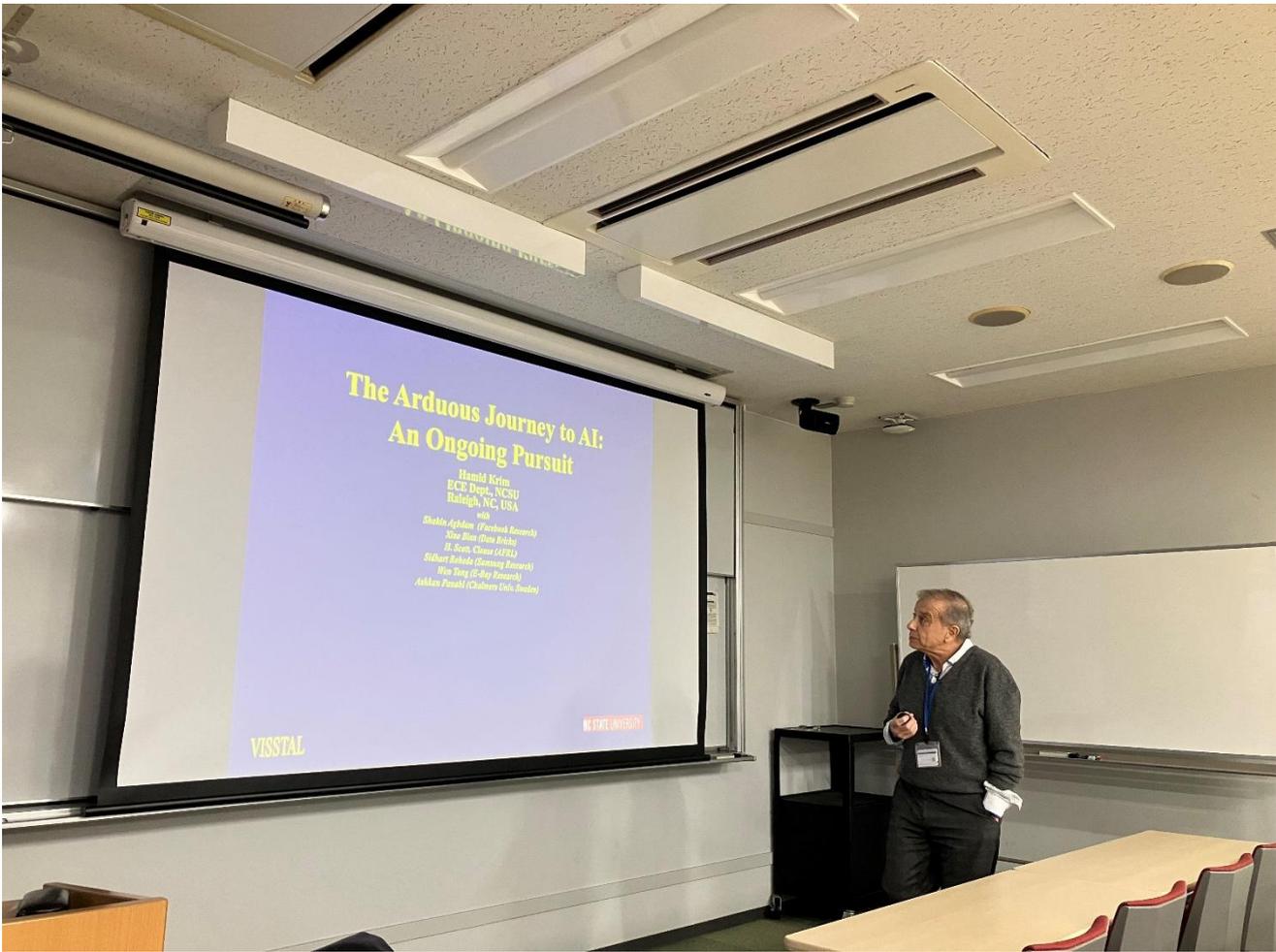
観光/食/文化などなんでも。

名古屋あるいは日本に滞在して楽しかったことや印象に残ったことなど。

(Sightseeing, Food, Culture, etc. Please describe whatever you felt interesting or impressive during your stay in Nagoya and Japan.)

Dr. Krim, as a long time Japan Lover, has not only enjoyed Nagoya Cultural Scene (Art Museum, Science Museum, Nagoya Castle and the history about it) as well visiting the splendid Korankei Park in its beautiful fall Foliage.

A first visit to Sapporo and its scenic beauty and history were also part of the exploration and all this in addition to visiting again Kyoto Temples and market and Tokyo visits different sites (not seen in prior visits), including temples and parts of busy Shinjuku.



The Arduous Journey to AI: An Ongoing Pursuit

Hamid Krim
ECE Dept., NCSU
Raleigh, NC, USA
with
Shahin Aghajani (Facebook Research)
Hao Jiang (Meta Brick)
H. Scott Geron (APL)
Silvano Bekas (University Research)
Wen Yang (2-Big Research)
Anders Fomahl (Chalmers Univ. Sweden)

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