

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 Netherlands Cancer Institute (Netherlands/Europe), Researcher, Bence Mark Halpern
2. 受入研究者 所属・職・氏名 Affiliation, Position, Name of Host Future Value Creation Research Center, Designated Assistant Professor, Bence Mark Halpern
3. 滞在中の研究テーマ Research Theme during the Visit Pathological speech synthesis and automatic speaker verification
4. 滞在期間 Period of Visit 2023年10月1日～2024年6月30日 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 Pathological speech synthesis
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 <a href="https://karkirowle.github.io/">https://karkirowle.github.io/</a>

(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

In the research, we have developed a new controllable, state-of-the-art pathological speech synthesis system using the x-vector features. This system is able to control the severity of pathological speech by linearly interpolating in a latent space. The submission is in progress.

Furthermore, the institute have collaborated with the research of the University of Groningen to analyse the impact of pathological speech on automatic speaker verification. Our submission has been accepted to Interspeech 2024, one of the biggest conferences in our field.

The success of the research carried out was critical in ensuring to win the 150 000 EUR Rubicon grant to carry out a new research for pathological speech evaluation, continuing the successful collaboration between Nagoya University and the Netherlands Cancer Institute.

### 2. 滞在中に訪問した研究者

Researcher(s) Visited during the Stay

Bence Mark Halpern

### 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  
Automatic Speech Recognition and Understanding 2023

## 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.)

Life in Nagoya has been a very good balance for me as it provides a good balance between modernity and traditions. The majestic Nagoya Castle, with its golden shachihoko, offers a glimpse into Japan's rich history.

The culinary scene is equally impressive, with hitsumabushi, a local delicacy of grilled eel on rice, providing a unique dining experience in three distinct steps. Other interesting local specialties of Nagoya include the misokatsu, mazesoba, and Taiwan ramen. During my travels, never have I ever eaten a single dish that did not match my taste, and as I am a relatively picky eater, I think it is an impressive achievement.

While Nagoya might not be one of most famous cities of Japan, the residents of Aichi prefecture have every reason to be proud of their accomplishments, whether it be the international companies of Toyota, or successes in the local Japanese market, such as the Komeda Cafe chain which provides the famous breakfast menu (morning set), or the delicious crunchy Black Thunder chocolate bar that is produced in Toyohashi.

Appreciation of seasonal events was a part of the Japanese culture that seemed to miss my attention before. People in Europe have usually lost their connection with the nature, while Japanese people regularly observe natural events such as autumn foliage or the summer cherry blossom, and enjoy illuminations during the winter.

Beyond its historical and culinary delights, I was surprised how Japan stands out for its deep cultural respect for elders, evident in everyday interactions and social norms. While priority seats for the elders are also present in Europe, I have realised that baskets in supermarkets are usually placed in a way so that it is easy to remove them even for the elderly. Some of my Japanese spends deliberately take the escalator instead of the elevator in places like the Nagoya Station, as they believe elevators should be used by the elderly. There are also many solutions like the bankbook that are aimed for the elderly, who do not wish to use telephone applications and such. Many processes are doable in pen and paper form, providing an additional convenience for them.