

佐賀大学大学院理工学研究科
AI・データサイエンス高度人材育成プログラム
博士後期課程（外国人留学生－在日）
学生募集要項

**Guide for the Application for
the Foreign Students of
Education Program for AI and Data Science Specialists (EPAD)**

(Doctor Course)

**October, 2022
April, 2023**

	Enrollment	Application Deadline	Examinations and Interview	Final Results
First application	October, 2022 or April, 2023	June 15, 2022	July 8, 2022	July 19, 2022
Second application	October, 2022 or April, 2023	July 28, 2022	August 25, 2022	September 13, 2022
Third application	April, 2023	November 2, 2022	November 18, 2022	December 13, 2022
Fourth application	April, 2023	January 24, 2023	February 28, 2023	March 8, 2023

*** This exam schedule is scheduled as of April 22. Depending on the future spread of coronavirus (COVID-19) infection, the entrance examination schedule may be postponed. If the test cannot be conducted at Saga University due to the spread of the novel coronavirus (COVID-19), the test will be postponed and/or conducted via the Internet.**

Graduate School of Science and Engineering
SAGA UNIVERSITY

Personal Information Use

In accordance with enforcement of the Act on the Protection of Personal Information Held by Independent Administrative Agencies, personal information written on the application form submitted by applicants is utilized for educational purpose (including exemption of entrance and tuition fees, payment extension of entrance fee, and scholarship) as well as the selection of applicants by entrance examinations (including additional business such as statistical transaction).

Personal information possessed by Saga University is not utilized for different purposes from the aim denoted above, and is not provided to a third person without the applicant's agreement, except for the case prescribed by the item no.9 of the Act on the Protection of Personal Information Held by Independent Administrative Agencies.

Education Program for AI and Data Science Specialists (EPAD)

(Doctor Course)

**October, 2022
April, 2023**

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GUIDE FOR THE APPLICATION FOR THE FOREIGN STUDENTS OF EDUCATION PROGRAM FOR AI AND DATA SCIENCE SPECIALISTS (EPAD)

The Education program for AI and Data Science Specialists (EPAD) provides all lectures, seminars, and internships, etc. on AI and data science technologies in English for both foreign and Japanese students. Students from overseas can learn and study completely in Japan without a hurdle of Japanese language. The EPAD is an educational course in the Graduate School of Science and Engineering, Saga University, that will start in October 2022, in order to bring up global researchers and engineers who will contribute to technological innovation in AI and data science fields. This is a call for application to a three-year Doctor Course from the academic year of October, 2022 and April, 2023.

The wisdom that mankind has created by the academic deepening has brought humanity a prosperous life through developing science and technology. To improve science and technology, it is necessary to sustain efforts from the viewpoint of AI and data science technologies. Educational study of AI and data science should be performed from the all-round and global viewpoint. The EPAD has been established in the Graduate School of Science and Engineering in order to discuss and solve AI and data science problems. The scope and goal of this EPAD is the education for students to possess an all-round insight for AI and data science from the global point of view after their completion by acquiring knowledge and thinking power.

In the Doctor Course program of the EPAD, education and research guidance of the fields are given by the Mathematical and Information Science Course, Mechanical and Electrical Energy Engineering Course, Biological and Material Engineering Course in the Graduate School of Science and Engineering. Applicants are encouraged to decide the research fields and prospective relevant supervisor(s) appearing on the List of Academic Staffs, and contact with the supervisor(s).

Students who complete the Doctor Course program of the EPAD are granted the Doctor's Degree (Doctor of Philosophy in Science or Doctor of Philosophy in Engineering). The month of entrance for foreign students is October, 2022 or April 2023 and they can enter the EPAD course immediately after completing their Master's Degree program without learning Japanese language.

QUALIFICATIONS

* For applicants who wish to enroll in April 2023, please replace "September 2022" with "March 2023".

1. **Nationality:** Non-Japanese citizens staying in Japan can apply for this program.
2. **Academic carrier:** The following candidates may apply for admission.
 - a. Those who have received Master's Degree from Japanese University as of September 2022.
 - b. Those who have received a Degree equivalent to Master's Degree of Japanese Universities in foreign country, or will receive it in foreign country as of September 2022.
 - c. Those who have received a Degree equivalent to Master's Degree of Japanese Universities from a foreign school through correspondence education in Japan, or will receive the Degree as of September 2022.
 - d. Those who have received a Degree equivalent to Master's Degree of Japanese Universities at educational institutions of the foreign country in Japan, which is designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government, or will receive the Degree as of September 2022.
 - e. Those who have been designated by the Minister of Education, Culture, Sports, Science and Technology of the Japanese Government.
 - f. Those who are 24 years old or more as of September 2022, and are admitted by the Graduate School of Saga University as that their academic abilities are equivalent to or higher than Master's Degree of Japanese Universities upon reviewing the submitted materials.

* Those who intend to apply based on the terms e or f should submit the application form to the Entrance Examination Office of Saga University one month earlier than the application deadline.
3. **Language proficiency:** A good working level of English is required.

1. Entrance examination

- ## SELECTION

- ## ADMISSION

- ## APPLICATION

1. Applicants should prepare the following documents to be forwarded to the Entrance Examination Office, Saga University.
 - ① **Application Form** (Form A).
 - ② Official transcript of **Master's degree** or certificate representing that the applicant will be conferred Master's degree by September 2022. Official transcript of Bachelor's degree is required in the case that the applicant will be qualified by the criterion 2-e of **QUALIFICATIONS** described above. The transcript or certificate must be sealed by the authority or sent directly from the college. Original diploma is also acceptable; in this case the examination office may exemplify the diploma and the original may be returned at the office.
 - ③ Transcripts of **Academic Record** issued by university authorities and its English translation. (The criteria of academic assessment should be also shown.)
 - ④ English summary of **Master Thesis** or it's equivalent if available, not exceeding four sheets of A4 size paper typed in double space. If a Master Thesis is not required by the University from which the applicant graduated, prepare a statement to this matter.
 - ⑤ Certificate of **Citizenship** issued by appropriate authorities.
 - ⑥ **Recommendation and Reference**

- a. A letter of **Recommendation** (Form B) from the head (Dean, in case of University) of the applicant's affiliated institution.
- b. Letter(s) of **Reference** (Form C) from those who know the applicant's research/study capability addressed to the President of Saga University.

The letters of recommendation and reference should indicate the English proficiency of the applicant. Enclose, therein, a certificate indicating the scores of TOEFL or a corresponding English Ability Test, if any.

- ⑦ Three **Photographs** (hatless portrait), 4.5 cm × 3.5 cm in size, taken within six months before the date of application. Two copies should be attached to the application form. One extra copy should be enclosed therein, with the applicant's name and nationality on the reverse side of the copies.
 - ⑧ **Entrance Examination Fee:** 30,000 yen.
2. All documents should be sent by registered mail and received by the Entrance Examination Office by the deadline indicated on the cover page.

Remarks

1. The above documents should be type-written in English on A4 size paper.
2. Incomplete documents are not acceptable.
3. None of the documents submitted is returned to the applicant.

NOTES

1. The applicant will be deprived his/her entrance under the following cases:
 - a. False statements on the documents.
 - b. Violation of the pledge.
2. Applicants are recommended to be well acquainted with the Japanese language, culture, customs, etc. A knowledge of the Japanese language is necessary in daily life.
3. Applicants are expected to complete their Doctor Course Program within three years.

BENEFITS

1. Exemption of tuition fee from complete to 50% may be granted depending on circumstances.
2. There are several scholarships for private-expense foreign students. Students can apply for these scholarships.
3. Housing: Students can apply to Saga University International House, or low-cost apartments supported by Saga prefecture and other organizations.

CORRESPONDENCE

Any correspondence relating to the application for the EPAD should be sent by mail to the address below.

Entrance Examination Office
Saga University
1 Honjo-machi
Saga 840-8502, Japan
E-mail: epad@mail.admin.saga-u.ac.jp

ACADEMIC STAFFS ATTENDING EPAD COURSES AND THEIR RESEARCH INTERESTS AND MAJOR FIELDS

Graduate School of Science and Engineering [Doctor course]

Mathematical and Information Science Course

Data Science

Data Science..... Minamoto, T.
Numerical Verification, Image Processing, Signal Processing, Digital Watermarking,
Wavelet Analysis, Applied Mathematics, Data Science, Numerical Analysis,
Mathematical Programming

Computer Science and Information Engineering

Smart System.....Matsumae, S., Nakayama, K.
Intelligent Informatics, Artificial Intelligence,
Parallel and Distributed Algorithms

Cyber Physical System.....Fukuda, O., Okumura, H.
Artificial intelligence, Robotics, Intelligent sensing,
Data science, Data visualization, Biological system,
Remote sensing, Medical image processing

Fundamental and Advanced Informatics.....Hanada, E., Hori, Y., Okazaki, Y.
Information/Communication Systems in Clinical medicine/Healthcare/Welfare,
Hospital Facilities, Information and Systems in Education, Computational Science

Mechanical and Electrical Energy Engineering Course

Thermo-Fluid Energy Engineering

Thermal Engineering..... Miyara, A., Mitsutake, Y.,
Kariya, K. and Ishida, K.
Thermodynamics, energy conversion, power plant systems
Heat exchanger, condensation, evaporation, absorption

Fluid Engineering..... Kinoue, Y. and Shiomi, N.
Turbomachinery, compressible fluid flow, effective utilization of fluid energy,
multiphase flow

Fluid Engineering..... Matsuo, S.
Compressible fluid flow, effective utilization of fluid energy, multiphase flow

Material and Design Engineering

Mechanics of Materials, Solid and Structures Hagihara, S., Hattori, N.,
Tadano, Y., Taketomi, S. and Morita, S.
Strength of materials
Advanced solid mechanics
Computational mechanics
Numerical analysis for structures
Fatigue strength of metals and advanced materials

<i>Design and Production Engineering</i>	Hasegawa, H., Mawatari, T. and Ohshima, F.
Design of machinery and machine elements	
Tribology of machine elements	
Surface engineering	
<i>Control Engineering</i>	Sato, K.
Control theory, robust control, adaptive control	

Ocean Energy Engineering

<i>Ocean Engineering</i>	Imai, Y. and Murakami, T.
Wave energy conversion system, Marine hydrodynamics, Floating system	
<i>Thermal Engineering</i>	Arima, H.
Boiling heat transfer, two-phase flow, effective utilization of thermal energy	
<i>Thermal Energy Conversion Systems</i>	Ikegami, Y.
Ocean thermal energy conversion plant, development of thermal energy conversion system	
<i>Offshore Wind Energy Systems</i>	Yoshida, S.
Rotor aerodynamic, aero-elastics, floating offshore wind turbine, wind farm	

Electronics, Information and Communication

<i>Advanced Microwave Engineering</i>	Toyoda, I., Tanaka, Takayuki. and Nishiyama, E.
Microwave circuits	
Planar antennas	
Wireless power transfer,	
Wireless communication systems	
<i>Advanced Computational Engineering</i>	Itoh, H and Fukumoto, H.
Artificial general intelligence	
Adaptive robots	
Educational support system	
Human interface	
<i>Advanced Optoelectronics</i>	Guo, Q. and Tanaka, Tooru.
Optoelectronic materials and devices (Light emitting diodes, Solar cells, etc)	
Epitaxial growth and characterization of semiconductors	
Synchrotron light application for material characterization	
<i>Bionic and Cybernetic Engineering</i>	Wakuya, H.
Artificial Intelligence	
Smart Robotic System	
Biomedical Instrumentation	
<i>Photovoltaic System</i>	Hara, S.
Parameter estimation of photovoltaic models	
Diagnosis of large-scale photovoltaic power plant	

Advanced Power Electronics

- Power Electronic Devices and Materials*..... Kasu, M.
Power Semiconductor Device Fabrication and Measurements
Diamond and Gallium Oxide Semiconductors
Epitaxial Growth and Characterization
- Microwave Electronic Devices and Circuits*.....Oishi, T.
High power and high frequency electronic devices using wide bandgap semiconductors
Device modeling technology
- Plasma Energy Engineering*..... Ohtsu, Y. and Ihara, S.
Plasma processing
Thin film preparation
Dry etching process
High voltage engineering
Pulsed power engineering
Plasma engineering
- Surface and Interface Dynamics*.....Takahashi, K.
Synchrotron light application
Electron spectroscopy
Nano-scale materials

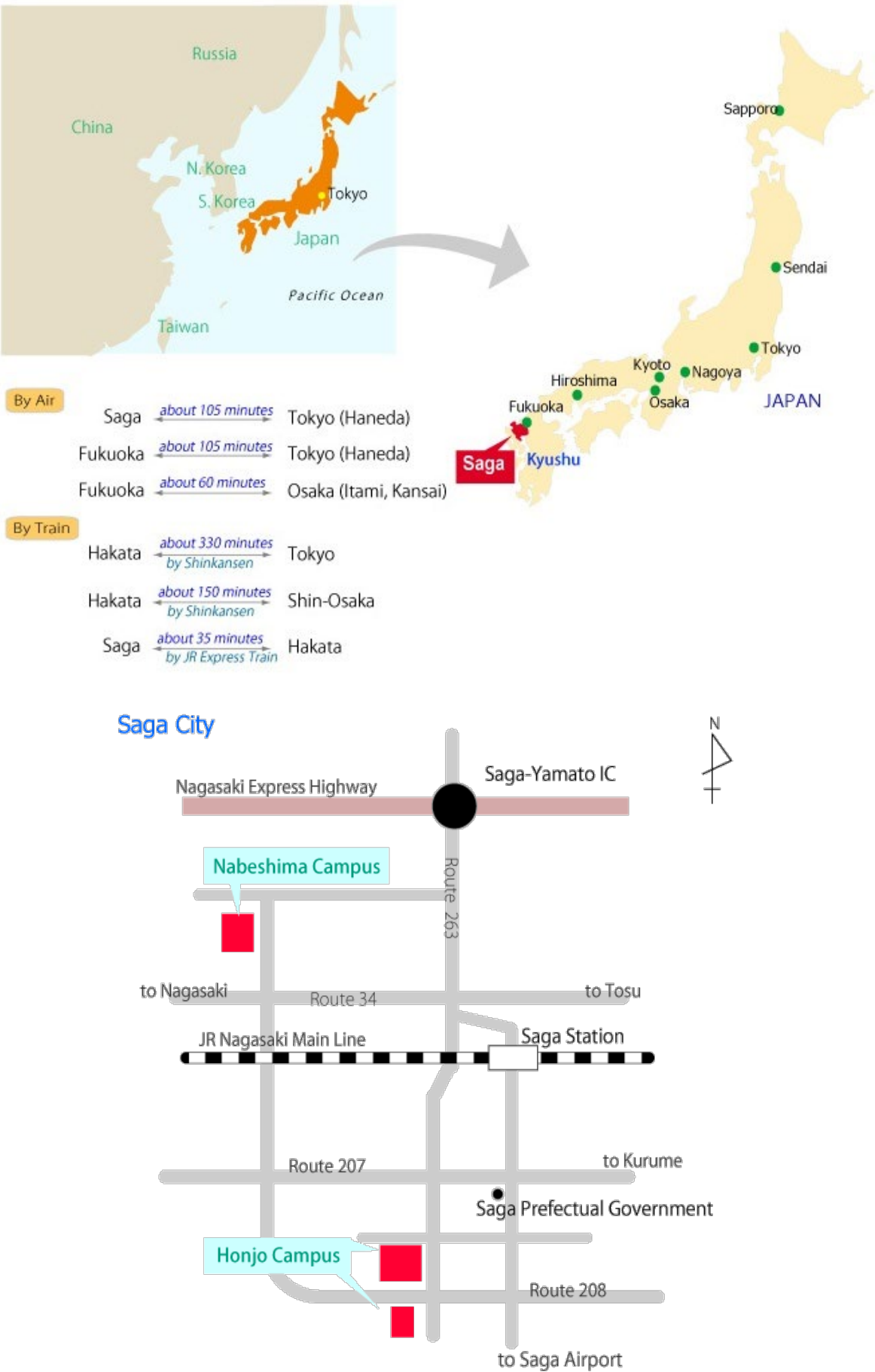
Biological and Material Engineering Course

Biomedical Engineering

- Intelligent Control Engineering*..... Goto, S. , Sugi, T. and Matsuda, Y.
Medical systems control.
Plant systems control.
Remote systems control.
Mechatronic systems control and robotics.
Reliability analysis for power plant.
Control systems design.
- Bioimaging and Sensing*..... Kimoto, A. and Yamaoka, Y.
Biosensors; Intelligent-composite multisensors
Biosensors; Tactile sensors mimicking human perceptions
Biosensors; Non-invasive imaging with composite sensors
Biomedical imaging; Photoacoustic imaging
Biomedical imaging; Nonlinear optics
- Applied Computing*..... Muramatsu, K. and Dozono, H
Numerical analysis of electromagnetic field
Optimal design of electromagnetic apparatus
Modelling of magnetic materials
Soft computing
Self-organizing maps
- Fluid Engineering*.....Hashimoto, T. and Sumi, T.
Compressible fluid flow, effective utilization of fluid energy, multiphase flow

<i>Sensing Systems</i>	Teramoto, K.
Non-destructive testing.	
Inverse problems in multidimensional sensing.	
Wave-field analysis	
Biomedical sensing by ultrasound	
Photonic Sensing.	
Nano-scale Sensing.	
Signal processing	
<i>Biomedical Sensing</i>	Md. T. I. Khan
Sensing systems of biomedical engineering dynamics	
<i>Robotics and Computational Intelligence</i>	Izumi, K.
Robotics, Mechatronics, Computational Intelligence, Machine learning	

Access to Honjo Campus, Saga University



EDUCATION PROGRAM FOR AI AND DATA SCIENCE SPECIALISTS (EPAD)

GRADUATE SCHOOL OF SCIENCE AND ENGINEERING, SAGA UNIVERSITY

A P P L I C A T I O N F O R M

INSTRUCTIONS (記入上の注意)

1. Application should be typewritten or written in Roman block capitals.
(記入は楷書又は大文字のローマ字体を用いること。)
2. Numbers should be written in Arabic figures.
(数字は算用数字を用いること。)
3. Year should be written in the Anno Domini system.
(年号はすべて西暦とすること。)
4. Proper nouns should be written in full and not be abbreviated.
(固有名詞はすべて正式な名称とし、一切省略しないこと。)
5. An Examination fee of 30,000 Yen should be enclosed.
(検定料 30,000 円を添えること。)
6. Write your name and the address within the box below for notifying the result of the selection. This box will be used for the addressing stickers.
(合格通知書等を送付するので氏名と住所を下記欄に記入のこと。この欄は住所ラベルとして使用する。)

Name :

Present :
address

Tel/Fax :

EDUCATION PROGRAM FOR AI AND DATA SCIENCE SPECIALISTS (EPAD)
GRADUATE SCHOOL OF SCIENCE AND ENGINEERING, SAGA UNIVERSITY
(DOCTOR COURSE)佐賀大学大学院理工学研究科 AI・データサイエンス高度人材育成プログラム
(博士後期課程)入学志願票

Course

- ☐ Mathematical and Information Science
- ☐ Mechanical and Electrical Energy Engineering
- ☐ Biological and Material Engineering

Paste a passport sized photograph or digital image taken within the past 6 months. Write your name and nationality in block letters on the back of the photo.

(4.5 cm × 3.5 cm photo)
(写真 (4.5 cm × 3.5 cm))

Period of Hope for Admission : ☐ October, 2022 ☐ April, 2023

Name of the desired supervisor (指導を希望する主指導教員名をかならず記入すること。)

1. Name in full, in native language (姓名(自国語))

(Family name)

(First name)

(Middle name)

(Sex)

In Roman block capitals (ローマ字)

☐ Male (男)☐ Female (女)

(Family name)

(First name)

(Middle name)

(Marital Status)

☐ Single (未婚)☐ Married (既婚)2. Nationality
(国籍)3. Date of birth (生年月日) Year 19 ,Month ,Date ,Age (As of April 1, 2022)
(年) (月) (日) (年齢)4. Present status; with the name of the university attended, or of the employer
(現職(在学大学名又は勤務先名まで記入すること))5. Present address and telephone number, facsimile number or E-mail address
(現住所及び電話, ファックス番号, E-mail アドレス)

Present address (現住所):

電話番号/FAX 番号(Telephone/facsimile number):

E-mail address:

6. Permanent address (本籍):

7. Field of specialization studied in the past (Be as detailed and specific as possible.)

(過去に専攻した専門分野(できるだけ具体的に詳細に書くこと。))

8. Educational background (学歴)

	Name and Address of School (学校名及び所在地)	Year and Month of Entrance and Completion (入学及び卒業年月)	Amount of time spent at the school attended (修学年数)	Diploma or Degree awarded, Major subject (学位・資格, 専攻科目) When taking leave of absence, the period and reason. (休学した場合はその期間・理由)
Elementary Education (初等教育)	Name (学校名)	From (入学)	years (年)	
Elementary School (小学校)	Location (所在地)	To (卒業)	and months (月)	
Secondary Education (中等教育)	Name (学校名)	From (入学)	years (年)	
Lower Secondary School (中学)	Location (所在地)	To (卒業)	and months (月)	
Upper Secondary School (高校)	Name (学校名)	From (入学)	years (年)	
	Location (所在地)	To (卒業)	and months (月)	
Higher Education (高等教育)	Name (学校名)	From (入学)	years (年)	
Undergraduate Level (大学)	Location (所在地)	To (卒業)	and months (月)	
Graduate Level (大学院)	Name (学校名)	From (入学)	years (年)	
	Location (所在地)	To (卒業)	and months (月)	
Total years of schooling mentioned above (以上を通算した全学校教育修学年数) as of April 1, 2022 (2022年4月1日現在)		years(年)		

* If the blank spaces above are not sufficient for the information required, please attach a separate sheet ((注)上欄に書ききれない場合には、適当な別紙に記入して添付すること。)

9. State the titles or subjects of books or papers (including graduation thesis authored by the applicant), if any, with the name and address of publisher and the date of publication.
(著書, 論文(卒業論文を含む。))があればその題名, 出版社名, 出版年月日, 出版場所を記すこと。)

* Accompany this form with a summary of the papers mentioned above. ((注)論文の概要を添付のこと)

10. Employment Record: Begin with the most recent employment, if applicable. (職歴)

Name and address of organization (勤務先及び所在地)	Period of employment (勤務期間)	Position (役職名)	Type of work (職務内容)
	From To		
	From To		

11. Japanese language background, if any (日本語の学習歴)

i) Name and address of institution (学習機関及びその住所)

ii) Period of study: from _____ to _____ , _____
(学習期間) Year (年) Month (月) Year (年) Month (月) Years (年間)

iii) Name of teacher (教師名)

iv) Japanese language proficiency: Evaluate your level and insert an X where appropriate in the following blank space. (日本語能力を自己評価のうえ、該当欄に×印を記入すること。)

	Excellent(優)	Good(良)	Fair(可)	Poor(不可)
Reading (読む能力)				
Writing (書く能力)				
Speaking (話す能力)				

12. Foreign language proficiency: Evaluate your level and insert an X where appropriate in the following blank space. (外国語能力を自己評価のうえ、該当欄に×印を記入すること。)

	Excellent(優)	Good(良)	Fair(可)	Poor(不可)
English(英語)				
French(仏語)				
German(独語)				
Spanish(西語)				

13. Family background (家族状況)

Name(氏名)	Relationship (続柄)	Age (年齢)	Occupation (職業)

14. Accompanying Dependents (Provide the following information if you plan to bring any family members to Saga, Japan.) 同伴家族欄 (佐賀に来る場合、同伴予定の家族がいる場合に記入すること。)

* He/She is advised to take into consideration various difficulties and the great expense that will be involved in finding living quarters. Therefore, those who wish to be accompanied by their families are advised to come alone first and let their dependents come after suitable accommodation has been found.

(注) 家族用の宿舎をみつめることは相当困難であり賃貸料も非常に割高になるのであらかじめ承知されたい。このため、留学生はまず単身で佐賀に来て、適当な宿舎をみつけた後、家族を呼び寄せること。

Name (氏 名)	Relationship (続 柄)	Age (年 齢)

15. Person to be notified in applicant's home country in case of emergency: (緊急の際の母国の連絡先)

i) Name in full(氏名) : _____

ii) Address : with telephone number, facsimile number, e-mail address:(住所:電話番号,ファックス番号及び e-mail アドレスを記入のこと。)

現住所(present address) :

電話番号/FAX 番号(Telephone/facsimile number) :

E-mail address :

iii) Occupation (職業) :

iv) Relationship (本人との関係) :

16. Immigration Records to Japan. (日本への渡航記録)

Date (日付)	Purpose (渡航目的)
From To	
From To	

Date of application(申請年月日):

Applicant's signature(申請者署名):

Applicant's name (in Roman

block capitals)(申請者氏名):

EDUCATION PROGRAM FOR AI AND DATA SCIENCE SPECIALISTS (EPAD)
(DOCTOR COURSE)
ADMISSION TICKET FOR THE EXAMINATION
Graduate School of Science and Engineering, Saga University
佐賀大学大学院理工学研究科 AI・データサイエンス高度人材育成プログラム(博士後期課程)
受験票

1. Course (志望コース)

- ☐ Mathematical and Information Science
☐ Mechanical and Electrical Energy Engineering
☐ Biological and Material Engineering

Photo
4.5cm × 3.5cm

Taken within 6
months.

Period of Hope for Admission : ☐ October, 2022 ☐ April, 2023

2. Sex ☐ Male (男) ☐ Female (女)

3. Name in full; in native language (氏名 (自国語))

(Family name) (First name) (Middle name)
In Roman block capitals (ローマ字)

(Family name) (First name) (Middle name)

(切 り 取 り 線)

領収番号※第 号

納 付 書 EXAMINATION FEE		
※第 号	受験者氏名 (Applicant's Name)	
2022 年度	研究科名 (Graduate Course)	理工学研究科
	専攻名 (Department)	理工学専攻
<div>¥ 30,000</div> 日本円に限る (JAPANESE CURRENCY) ただし、入学検定料 (EXAMINATION FEE) ※西暦 年 月 日 領収		

領 収 証 書 RECEIPT	
<div>¥ 30,000</div> 日本円に限る (JAPANESE CURRENCY) ただし、入学検定料 (EXAMINATION FEE) ※西暦 年 月 日 受験者氏名 (Applicant's Name) 様 国立大学法人佐賀大学	

領収証書及び納付書の氏名欄は、必ず明記すること。

※印の欄は、記入しないこと。

(Applicant should not fill in except his/her name, Graduate Course and Department.)

推 薦 書
LETTER OF RECOMMENDATION

佐賀大学長 様
To: President of Saga University

被推薦者
Recommendee
氏名
Full Name: _____
生年月日
Date of Birth: _____
国籍
Nationality: _____

日付
Date: _____
(month) (date) (year)

推薦者
Recommender
署名
Signature: _____
氏名
Print Name: _____

役職
Title and Institution
(or Company): _____
現住所
Present Address: _____

E メールアドレス
E-mail Address: _____

証 明 書
LETTER OF REFERENCE

佐賀大学長 様
To: President of Saga University

被証明者
Referenced person
氏名
Full Name: _____
生年月日
Date of Birth: _____
国籍
Nationality: _____

日付
Date: _____
(month) (date) (year)

証明者
Reference person
署名
Signature: _____
氏名
Print Name: _____
役職
Title and Institution
(or Company): _____
現住所
Present Address: _____
E メールアドレス
E-mail Address: _____