Sony Japan - Online Recruitment Talk in August - Full-time Global Fresh Graduate & Global Internship 2022

Greetings from the Global Talent Acquisition Team at Sony HQ in Tokyo! We are excited to announce a variety of internship and full-time opportunities to join our Research & Development teams in Japan for the fall 2021 recruitment season. Please refer to our <u>Global Recruitment site</u> which will be updated with new position listings in mid-August.

We welcome all interested undergraduate and graduate (Master's and PhD) students to join us in our upcoming event, where we will outline the application process and hear directly from our international employees about working at Sony in Japan.

All our panelists are experienced engineers and computer scientists working on a variety of our R&D teams, tackling projects involving signal processing, networks for gaming, computer graphics, PlayStation 5 hardware, laser diodes, deep neural network learning, and more! Furthermore, our panelists have studied at universities including Columbia, Cornell, Georgia Tech, The University of Chicago, USC, and UC Santa Barbara.

We look forward to meeting you soon!

Event Schedule:

August 6th (Fri) at 9:30 – 10:30 CST Registration Link here.

August 20th (Fri) at 9:30 – 10:30 CST Registration Link here.

August 20th (Fri) at 11:30 – 12:30 CST Registration Link here.

August 27th (Fri) at 11:30 – 12:30 CST Registration Link here.

Event Outline:

- 1. Introduction and Application Process (~30 minutes)
- a. Sony Company Introduction
- b. Application Process Outline
- c. Tips for Writing Essays and Preparing for Interviews
- 2. Introduction to Global Sony Employees (~20 minutes)
- 3. Question & Answer Session (~10 minutes)

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| | Online Recruitment Talk in August | |
|--|---|--|
| Date and Time | August 6 ^{th(Fri)} at 9:30 – 10:30 CST https://us02web.zoom.us/webinar/register/WN K I-QoUPQ12oBbCD341D3Q August 20 ^{th(Fri)} at 9:30 – 10:30 CST https://us02web.zoom.us/webinar/register/WN 7t2Bk1gNQDq0KsTz HHKBw August 20 ^{th(Fri)} at 11:30 – 12:30 CST https://us02web.zoom.us/webinar/register/WN FpKYHD9STVWsCbMeeWtQhw August 27 ^{th(Fri)} at 11:30 – 12:30 CST https://us02web.zoom.us/webinar/register/WN -b hoy-WSoKFpx6yTDHt3w | |
| Step 1: Register through the link. Step 2: You will receive the meeting URL via email. Step 3: Please join the session on the day of the event | | |
| Full- | time Global Fresh Graduate Recruiting 2022 | |
| Job DescriptionPlease see details of various opportunities from Page 2 and All available positions will be posted on the website on Aug | | |
| Working Location | Tokyo and/or Kanagawa, Japan | |
| <u>Salary</u> <u>and</u> <u>Benefit</u> | [Estimated Annual Salary] JPY 5,500,000 ~ (varies depending on qualifications and experience) [benefit] Dormitory (for eligible candidate), language training (100% paid by company), Visa, flight, international moving, relocation allowance, social insurance, annual leaves, employee purchase discount, etc. | |
| Selection Process | 1.Submit your CV 2.Complete Essay and/or Online Coding Test(depending on position) 3.Interview* (*Shortlisted candidates will be invited to the interview in October) | |
| How to apply | Step 1: Pre-register through the link below Step 2: Application form for each position will be ready in August. Please apply to the position you are interested in and submit application. | |

Pre-registration

| | 1 | Research Engineer Computational Sensing, Embedded AI (Job description in P.3) |
|--------------|----|---|
| | 2 | AI Engineer/ML Engineer of intelligent information processing technology field (Job description in P.3) |
| | 3 | System Software Engineer for Robotics Platform (Job description in P.3) |
| | 4 | Computational Photography, Next Generation Image Sensing Technology Researcher (Job description in P.3) |
| | 5 | Human Interaction Engineer (Job description in P.4) |
| | 6 | Visual Recognition Computation Systems and Architecture, Research Engineer (Job description in P.4) |
| | 7 | Software Engineer - Video Codec and Streaming, Edge Cloud Platforms (Job description in P.4) |
| Lab Davida | 8 | Machine Learning and Causal Inference, Data Scientist (Job description in P.4) |
| Job Position | 9 | Machine Learning Research Engineer (Job description in P.4) |
| | 10 | System Development Engineer (Job description in P.5) |
| | 11 | Software Engineer, Embedded Linux software development (Job description in P.5) |
| | 12 | Machine Learning/Signal Processing for Sensor Data, Research Engineer (Job description in P.5) |
| | 13 | Researcher on Digital Health Application Technology of Audio/Visual Sensing (Job description in P.5) |
| | 14 | Robotics, Engineer / Researcher (Job description in P.6) |
| | 15 | AI Engineer/ML Engineer of intelligent information processing technology field (Job description in P.6) |
| | 16 | R&D engineer of Music, Acoustics, Speech, and Language technology field (Job description in P.6) |



| No. | Job Title | Responsibilities | Product, Service |
|-----|---|---|--|
| 1 | Research Engineer Computational Sensing, Embedded AI | Planning of medium- to long-term development roadmap for image sensing technology and image sensing applications Technical survey, exploration research, and practical development for image sensing technology and image sensing applications Development of software libraries for imaging processors and vision processors | Image Sensor / SW libraries for Image sensing / SW for Vision processors |
| 2 | AI Engineer/ML Engineer of intelligent information processing technology field | Research and development of advanced application technologies and information processing technologies in our target fields (Computer Vision, Natural Language Processing, Sound, etc.) Entertainment contents: - Open-domain dialogue generation - Vision-based commentary generation - Language-based procedural CG generation Remote communication: - Non-verbal context understanding - CG Avatar / Motion generation Financial services: - Multi-turn dialogue understanding - Real-world data analysis Healthcare services: - Respiratory / Heart sound analysis - Behavioral change interventions/systems/theory in healthcare | Entertainment Contents, PlayStation, Robots, Financial Services, Healthcare Services, Remote Communication, and Consumer Electronics. |
| 3 | System Software Engineer for Robotics Platform | You will be responsible for the development of advanced robot software using the latest Robotics development environment in order to strengthen research and development of robots in new fields for the era in which robots will be used as a matter of course in the near future. Responsible area: - Autonomous robot system - Middleware for navigation and manipulation (such as perception, recognition, planning and control module) - Development environment (SDK, simulator) - Group control of multiple robots | Robotics products |
| 4 | Computational Photography, Next Generation Image Sensing Technology Researcher | Develop new image processing algorithm based on computational photography technology or other research level technology to enhance functionality or image/video quality of SONY products such as digital still camera, camcorder, TV, PC, and gaming devices. - Investigation of possible technical options to achieve functionality enhancement or image/video quality enhancement. - Conducting research and image/video processing algorithm development to achieve above purpose communicating with engineers closely - Providing algorithm description document, reference code in the specified programming language, and regular research reports | Image sensor and other special types of sensor (polarization sensor, hyper-spectral sensor etc.) Digital Camera (consumer & professional) Mobile Phone |

| No. | Job Title | Responsibilities | Product, Service |
|-----|---|---|--|
| 5 | Human Interaction Engineer | Research and development on Human Interaction Technology, including user interface, applications, innovative user experiences in XR, Natural UI, Cyber-Physical world, and Autonomous Systems. -develop technologies of XR interactions based on leading-edge input/output devices, algorithms such as machine learning, graphics/audio technology, cognitive science, and psychology, and validate user naturalness, intuition, ease of use, and experience value. -develop systems of Cyber-Physical interaction world based on human sensing and audio/graphic technology, data analysis, machine learning. -develop prototypes indicate future concepts of next-generation XR interaction, Cyber-Physical world. | Electronics, Game products. Game, music, pictures, financial services. |
| 6 | Visual Recognition Computation Systems and Architecture, Research Engineer | * Develop low latency / high bandwidth / high performance per watt computation system on edge computers. Also collaboratively work with related team that are responsible for wireless communications and cloud side computation. * Port Sony's in-house algorithms to build assets on Sony's internal hardware. * Design and propose software systems, based on required scenarios of future products and services based on Sony's technical assets and of course, help to realize them as PoCs or business units. | Robotics, Game(PlayStation), Entertainment |
| 7 | Software Engineer - Video Codec and Streaming, Edge Cloud Platforms | Develop video distribution/streaming technology for various business fields of the Sony Group and develop services using edge cloud computing technology collaborating with cloud vendors and network operators. If your skills, experience and personal preferences match, you may be able to get involved more in the development and operation of commercial remote live entertainment services. You will start as a member of development team with a few members to develop software with implementing the target technologies. Through the development of the software, we hope that you will acquire a high level of expertise and become a lead engineer in this field. When you achieved to develop new or advanced technologies, you can have a opportunity to present papers at academic conferences and magazines or to present case studies in some conference of the industry area. Or, if you wish, you can have opportunities to be deeply involved in the development of commercial products, services, or applications in a business unit and contribute to the actual business. | Video Contents Distribution/ Streaming Service |
| 8 | Machine Learning and Causal Inference, Data Scientist | * Research and develop machine learning algorithms including causal inference, off- policy evaluation, reinforcement learning(multi-armed bandit) * Design experiment to evaluate machine learning algorithms in real world application with business units * Design and develop prototype applications with development partners * Work closely with business units like entertainment and financial domain in Sony group * Publish research papers about these activities | Online services (entertainment, financial, etc.) |
| 9 | Machine Learning Research Engineer | * Research and develop in machine learning or its applications * Develop solutions or functions for real-world problems. * Plan and Develop prototype or production-level machine learning software using python or C++/C# and other languages * Design experiment to evaluate machine learning algorithms in real world application * Become a worldwide high-class engineer after acquiring most advanced technology on machine learning and Al. * Become a leader or a core member of the team which provides original technologies as a service for inside or outside of the company * Collaborating with global Sony group companies, you can create a business value for business unit of electronics, finance, game, entertainment, medical, and so on. | Contributing to the Sony Group's businesses, including consumer electronics, finance, and entertainment, by providing machine learning libraries and software developed by us Contributing to new businesses based on machine learning (ex. predictive analytics tool, Prediction One) |

| No. | Job Title | Responsibilities | Product, Service |
|-----|---|---|---|
| 10 | System Developme nt Engineer | Recruit personnel for system architecture development. We develop integrated system such as display, sensing and signal processing included AI processing. We would like you to consider and develop the principle of complex HW/SW system. Customer values and social issues are analyzed and discussed from the upstream, and you are invited to participate in the process from drafting the necessary system architecture. We have strong ties with business divisions, creative design and customers, and you can collaborate with engineers from a wide range of fields. We have strong ties with business divisions, creative design and customers, and we can collaborate with a wide range of engineers from the development side to the design side. | • Display System (AR/VR/Projection System/ etc.) • Sensing System (RGB, Depth sensor, Biological range sensor, Sensor fusion) • Automotive Entertainment System Development (in- Cabin display and human sensing) • Integrated System development (Integration with sensor and display) |
| 11 | Software Engineer, Embedded Linux software developmen t | Works in a team of system software development for commercial electronic devices and AI x Robotics products by design, implementation, optimization, technical support and analysis. * system software includes Linux kernel, device driver, application runtime, container, sensor/media processing framework, security and so on. Responsible for more than one technology area in the team. development, integration and provision of in-house Linux distribution. Improvement and operation of software development flow by using DevOps, CI, auto test and so on. development and provision of cross software development environment for embedded platform. Contribution for open source software community. | Alpha camera, Cybershot, camcorder, Walkman, professional camera, security camera, projector, medical equipment, robotics such as aibo. |
| 12 | Machine Learning/Sig nal Processing for Sensor Data, Research Engineer | Develop machine learning or signal processing algorithm, and implement it as a software library or digital circuit. Repeat problem setting, data collection, algorithm improvement, and field test to bring it to a practical technology. Design optimal software and hardware, and make a working prototype to demonstrate its customer value. Propose new user experience proactively while surveying academic papers and industry trends. Work in a team, also typically with Sony business units or external partners, whether domestic or overseas. | Digital camera, Mobile robot/drone, RTLS, AR navigation, XR interaction, Game and video content production, Posture measurement for sports and rehabilitation |
| 13 | Researcher on Digital Health Application Technology of Audio/Visua I Sensing | Research and development of vital sensing and analytics technology that utilizes Sony's audio/visual sensing technology for healthcare monitoring to support a healthy and secure society that is close to people via remote/real-time, and system technology for detecting signs of heart disease, mental illness, and lifestyle-related diseases • R&D of system technology for detecting signs of mental diseases, dementia and lifestyle-related diseases using audio signal processing, sound source separation technology using DNN, etc., and sound signal feature extraction technology • R&D of system technology for prediction of heart disease, psychiatric disease, dementia, and lifestyle-related disease prediction using visual signal processing, DNN, etc. | Wearable healthcare monitoring system Remote healthcare monitoring system |

| No. | Job Title | Responsibilities | Product, Service |
|-----|---|---|---|
| 14 | Robotics, Engineer / Researcher | Research engineer to develop algorithms regarding robotics, such as novel controller, motion control, motion/path/task/view planning and optimization problem, using machine learning Development includes a construction of theory, integration into the real robot system, experiment and analysis Leading position of the advanced Research applying machine learning on robotics Report on development plan, development progress and status, deliverables as development results, Paper submission an presentation, etc. You will work on a specific project to develop fundamental technologies and build robot prototypes to contribute social implementation of robot. We are looking for research engineers who can take the initiative in problem formulation, hypothesis verification, experiment and further advanced research. | We developed entertainment robots such as AIBO and QRIO (Small size humanoid robot) in past and we are developing innovative technologies towards future robots in entertainment, mobile, manipulator and medical. |
| 15 | Al Engineer/ML Engineer of intelligent information processing technology field | Research and development of advanced application technologies and information processing technologies in our target fields (Computer Vision, Natural Language Processing, Sound, etc.) Entertainment contents: - Open-domain dialogue generation - Vision-based commentary generation - Language-based procedural CG generation Remote communication: - Non-verbal context understanding - CG Avatar / Motion generation Financial services: - Multi-turn dialogue understanding - Real-world data analysis Healthcare services: - Respiratory / Heart sound analysis - Behavioral change interventions/systems/theory in healthcare | Entertainment Contents, PlayStation, Robots, Financial Services, Healthcare Services, Remote Communication, and Consumer Electronics. |
| 16 | R&D engineer of Music, Acoustics, Speech, and Language technology field | Research and development of fundamental technology in our target fields (Music, Acoustics, Speech, and Language). Problem formulation, hypothesis verification, experiment, simulation, error analysis, data collection, advanced technology research, market research and analysis, etc. Software design, architecture design, interface design, implementation, evaluation, and release of technology. Project leading to develop innovative technology. Report on development plan, development progress and status, deliverables as development results, etc. Close cooperation with members of the development team, communication with people in charge of products and services. | Game(PlayStation, Smart Phone Application, etc.), Movie/Music(Contents Creation Support), Video Analysis(Broadcast contents, Online Video, etc.), Robot(Aibo), Financial Service (Human Operation Support, Data Analysis), etc. |

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Sony Global Internship 2022



Pre-registration

https://www.sony.com/en/SonyInfo/Careers/japan or scan -> to



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| | 2 | Human interaction engineer (Job description in P.3) |
| | 3 | Visual Recognition Computation Systems and Architecture, Research Engineer (Job description in P.3) |
| | 4 | Machine Learning & Robot Control, Software Engineer (Job description in P.3) |
| | 5 | Machine Learning & Computer Vision, Software Engineer (Job description in P.4) |
| <u>Positions</u> | 6 | Deep Learning, Researcher/Research Engineer/Software Engineer (Job description in P.4) |
| | 7 | AI Engineer/ML Engineer of intelligent information processing technology field (Job description in P.4) |
| | 8 | Algorithm development on 3D computer vision area. (Job description in P.4) |
| | 9 | Research Engineer, Audio Signal Processing (Job description in P.5) |
| | 10 | Robotics, Engineer / Researcher (Job description in P.5) |
| | 11 | R&D engineer of Music, Acoustics, Speech, and Language technology field (Job description in P.5) |



| No. | Job Title | Responsibilities | Product, Service |
|-----|--|---|--|
| 1 | Computational Photography, Next Generation Image Sensing Technology Researcher | Develop new image processing algorithm based on computational photography technology or other research level technology to enhance functionality or image/video quality of SONY products such as digital still camera, camcorder, TV, PC, and gaming devices. - Investigation of possible technical options to achieve functionality enhancement or image/video quality enhancement. - Conducting research and image/video processing algorithm development to achieve above purpose communicating with engineers closely - Providing algorithm description document, reference code in the specified programming language, and regular research reports | Consumer/professional digital imaging products such as digital still camera, camcorder, digital single lens reflex camera, surveillance camera, camera module in PC and mobile phone and gaming platform. Image sensors to be provided to many companies including apple, Samsung, google etc. |
| 2 | Human interaction engineer | Research and development on Human Interaction Technology, including user interface, applications, innovative user experiences in XR, Natural UI, Cyber-Physical world, and Autonomous Systems. -develop technologies of XR interactions based on leading-edge input/output devices, algorithms such as machine learning, graphics/audio technology, cognitive science, and psychology, and validate user naturalness, intuition, ease of use, and experience valuedevelop systems of Cyber-Physical interaction world based on human sensing and audio/graphic technology, data analysis, machine learningdevelop prototypes indicate future concepts of next-generation XR interaction, Cyber-Physical world. | Electronics, Game products. Game, music, pictures, financial services. |
| 3 | Visual Recognition Computation Systems and Architecture, Research Engineer | * Develop low latency / high bandwidth / high performance per watt computation system on edge computers. Also collaboratively work with related team that are responsible for wireless communications and cloud side computation. * Port Sony's in-house algorithms to build assets on Sony's internal hardware. * Design and propose software systems, based on required scenarios of future products and services based on Sony's technical assets and of course, help to realize them as PoCs or business units. | Robotics, Game(PlayStation), Entertainment |
| 4 | Machine Learning & Robot Control, Software Engineer | Algorithm research and development on robot control area. Research of technological trends in the target robot control based on machine learning areas. Survey of state-of-the-art papers, implementation/replication and evaluation of some of the techniques. Improvement of the techniques. Report the summary of the evaluation and improvement. | robot(aibo, drone, factory automation) |

| No | . Job Title | Responsibilities | Product, Service |
|----|---|--|--|
| 5 | Machine Learning & Computer Vision, Software Engineer | Algorithm research and development on image recognition area, mainly human, object and behavior recognition. - Research of technological trends in the target image recognition areas. - Survey of state-of-the-art papers, implementation/replication and evaluation of some of the techniques. - Improvement of the techniques. - Report the summary of the evaluation and improvement. | robot(aibo, drone), smart devices (Xperia, smart speaker, smart glass, HMD), digital imaging (alpha-still camera, handy cam), automobile, medical imaging |
| 6 | Deep Learning, Researcher/Resea rch Engineer/Softwar e Engineer | Topics: - Deep Learning General: Large-scale training & transfer learning, Generative models, AI-ethics technologies (XAI&Fairness), Architectures & training algorithms for specific data formats such as graph & cross-modal. - Deep Learning Software Libraries: Development of opensource deep learning framework nnabla (low-level implementation, API design, training reproduction of recent models, etc.) - Creation AI core: CG and deep learning for games, movies etc. Expected outcomes: - Paper submission to top conferences - Publishing opensource software libraries/packages - Deep Learning models & tools (software libraries/packages or feasibility reports) for specific business applications at Sony | Electronics (On-device image/audio/sensor processing), Entertainment contents (Content management, Video/audio content enhancement), Games (Play Station), AI SaaS (Neural Network Console, Prediction One) etc. |
| 7 | AI Engineer/ML Engineer of intelligent information processing technology field | Research and development of advanced application technologies and information processing technologies in our target fields (Computer Vision, Natural Language Processing, Sound, etc.) Entertainment contents: - Open-domain dialogue generation - Vision-based commentary generation - Language-based procedural CG generation Remote communication: - Non-verbal context understanding - CG Avatar / Motion generation Financial services: - Multi-turn dialogue understanding - Real-world data analysis Healthcare services: - Respiratory / Heart sound analysis - Behavioral change interventions/systems/theory in healthcare | Entertainment Contents, PlayStation, Robots, Financial Services, Healthcare Services, Remote Communication, and Consumer Electronics. |
| 8 | Algorithm development on 3D computer vision area. | Algorithm development of 3D computer vision area. Application development and software implementation. Reproduction of the latest academic papers. Collect and label development datasets Improvement of experimental equipment | Image sensor related products such as camera, smartphones, AR/VR, automotive and robot. |

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|----|---|--|--|
| g | Research Engineer, Audio Signal Processing | Sony's current mission is "Fill the world with emotion, through the power of creativity and technology". As R&D division exploring sound and acoustic research, we believe it is necessary to develop new sound technologies for entertainment in addition to the consumer audio products we have contributed to. To this end, we are considering strengthening machine learning and acoustic simulation, especially as an approach to technology, in addition to conventional signal processing technology. We are recruiting people who meet this objective. Specifically, there is a need for accurate and real-time simulation technology for Spatial audio. A wide range of subjects are covered, including estimation of HRTF (Head Related Transfer Function) required for virtual sound image localization, estimation of sound behavior in a room by wave propagation, and vibration simulation of loudspeaker and microphone mechanism. And while this has traditionally been done in modeling, it's also possible to get new efficiencies by working on the latest methods using machine learning. During the internship period, we expect that interns will tackle the development of novel methods based on state-of-the-art research papers. | VR/Game sound solution, Sound production solution for entertainment industry, Digital health solution using sound/vibration and Consumer/B2B audio products |
| 1 | Robotics, Engineer / Researcher | Research engineer to develop algorithms regarding robotics, such as novel controller, motion control, motion/path/task/view planning and optimization problem, using machine learning Survey, Development includes a construction of theory, integration into the real robot system to test or verification under simulation You will conduct a short term research including survey, planning, design, implementation and experiment using real system or simulation. During internship, you will have regular report and discussion with team members and final presentation will be arranged in last of your internship. Research topic related to a specific robot project will be decided through the discussion. We are looking for a person who can take the initiative in this work. | We developed entertainment robots such as AIBO and QRIO (Small size humanoid robot) in past and we are developing innovative technologies towards future robots in entertainment, mobile, manipulator and medical. |
| 1 | R&D engineer of Music, Acoustics, Speech, and Language technology field | Research and development of elemental technology in our target fields (Music, Acoustics, Speech, and Language). Problem formulation, hypothesis verification, experiment, simulation, error analysis, data collection, technology research, etc. Experimental environment design, and implementation. Report on development plan, progress and status, and results. Close cooperation with members of the development team. | Game(PlayStation, Smart Phone Application, etc.), Movie/Music(Contents Creation Support), Video Analysis(Broadcast contents, Online Video, etc.), Robot(Aibo), Financial Service (Human Operation Support, Data Analysis), etc. |