YAMAHA

Global Internship Program in Hamamatsu, Japan *Summer 2020*




✓ Internship

Yamaha Corporation is recruiting a wide range of competitive R&D engineers for its internship programs. Interns will be working at the Innovation Center, which is Yamaha's dedicated R&D headquarters located in Hamamatsu, Japan. The program will span approximately 12 weeks in 2020 summer season, and also will support your travel and accommodations. Interns will be members of teams which include other Yamaha researchers and engineers.

✓ Who we are

With over 130 years of proud history, Yamaha Corporation is the largest and most dynamic manufacturer of acoustic and digital musical instruments and professional audio products in the world.

✓ About recruitment

Following two Yamaha divisions are looking for interns.

Product Development Division

Senior or master's students in engineering, computer science, physical sciences, and/or mathematics.

Research & Development Division

Doctoral or master's students in engineering, computer science, and/or mathematics.

Apply for our research internship and enjoy your stay in Japan's city of music!

Access from here !!

https://www.yamaha.com/en/recruitment/internship/

Several examples of ongoing projects are listed below.
Please visit our website to see the entire list and details of each project.

https://www.yamaha.com/en/recruitment/internship/

Product Development Division

Acoustic & vibration analysis of musical instruments

B&O Instruments Development Department

Continuous measurement and analytic research, simulation, and verification to gain insights on instrument behavior in order to design higher quality acoustic instruments

SKILLS

- Required: Acoustics, vibration analysis, analytic reporting, CAD
- Desirable: Knowledge of specific acoustic musical instrument structure (e.g. piano, violin)

Development of VST plug-in FX for synthesizers

Digital Musical Instruments Development Department

Investigation and design of FX algorithms using a VST plug-in SDK, further prototyping with C/C++, and audio evaluation, in order to materialize new FX modules for future Yamaha products

SKILLS

- Required: Digital signal processing for audio FX, C/C++, electric/electronic circuitry, electro-acoustics
- Desirable: Experience with musical instruments and/or music production

Prototyping of loudspeakers for professional use

SC Development Department

Discussion of required specs, followed by enclosure design using SOLIDWORKS, and further prototyping with acoustic measurements and evaluation, in order to guide future Yamaha professional speaker designs

SKILLS

- Required: Acoustics, mechanical design, experience with SOLIDWORKS (CAD), open-minded communication to support other engineers in the same team

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Research & Development Division

Singing synthesizers and/or tone generators

Research and development of technologies for singing synthesizers and/or tone generators that generate emotive sound comparable to that of professional musicians. You will be part a team tasked with creating a DNN-based system, including recording, developing the DNN system, etc.

SKILLS

- Required: Expertise in programming (C/C++, Python), machine learning, and signal processing
- Strongly welcomed: Expertise in mathematics for machine learning, and experiences with musical instrument performance or singing

Automatic expressive audio effects

Research and development of technologies for facilitating the creation of professional-quality vocal tracks and other music audio tracks based on machine listening with/without multimodal processing. You will be part of a team tasked with creating a system that generates high-quality vocal signals or other music audio signals that arouse human emotions.

SKILLS

- Required: Expertise in programming (C/C++, Python), machine learning, and signal processing
- Strongly welcomed: Background in mathematics for machine learning
- Welcomed: Experience with music production and/or performance

Multimodal interactive machine musician

Research and development of recognition and/or generation technologies for creating a multimodal and interactive machine musician that understands and responds to human musicians in a real-time musical performance. You will be part of a team tasked with creating a system that makes musical instruments more interactive.

SKILLS

- Required: Expertise in programming (C/C++, Python) and machine learning
- Strongly welcomed: Background in mathematics for machine learning, signal processing, music informatics, computer vision, and/or human-computer interaction
- Welcomed: Experience with musical performance and/or production

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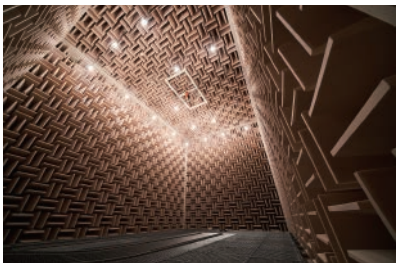


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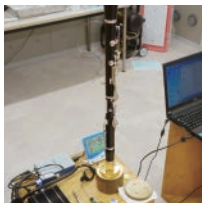
Research & Development Division

Design parameter study of a brass instrument

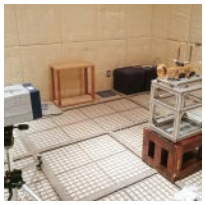


Parametric study of the bore diameter of a trumpet in order to propose an instrument that can be easily played, even by beginners, using numerical techniques such as linear stability analysis (LSA). The result will be confirmed by actual playing tests after making a prototype with 3D printer.

SKILLS

- Basic knowledge of brass instruments, sound and vibration, etc.
- Strongly welcomed: Skills related to data processing tools (Matlab etc.) and 3D CAD (Solidworls etc.)
- Welcomed: It is better you if can play the trumpet.

Input impedance measurement and analysis for woodwind instruments



Measurement and analysis of the input impedance in several conditions of clarinets. After establishing the measurement method, analyze each clarinet model and evaluate the differences.

SKILLS

- Required: Basic knowledge of woodwind instruments, sound and vibration, etc.
- Welcomed：Skills related to data processing tools (Matlab, Python, etc.)

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