

HKIIT Workshop

Day 1 Morning

Opening Session

Instructor: TADOKORO Atsushi

2025

Today's Agenda (9:30 - 11:30)

1. Opening Session (9:30 - 10:10)

- Introduction
- Workshop Objectives
- Overall Overview

2. Administrative Notices and Environment Check (10:10 - 10:20)

1. Opening Session

(9:30 - 10:10)

1-1. Introduction

Welcome

- Thank you very much for participating in the HKIIT Workshop today
- This workshop is a place to explore creative activities using cutting-edge digital technologies
- Although we have a limited time of 6 days, I would like to learn, create, and discover new possibilities of technology and expression together with you
- **In this workshop, you, the participants, are the protagonists**
 - Please actively ask questions
 - Please experiment
 - Challenge yourself without fear of failure

Instructor Introduction

TADOKORO Atsushi

Creative Coder, Live Coder, University Professor

Background and Activities

- Associate Professor, Faculty of Engineering, Maebashi Institute of Technology
- Creates music production, video generation, and installation works using programming
- Extensive experience in live coding performances and workshops both domestically and internationally
- Author: “Beyond Interaction,” “Performing Programming: Live Coding Philosophy and Practice - Show Us Your Screens,” “Processing Creative Coding Introduction - Creative Expressions Generated by Code,” etc.

Areas of Expertise

- Media art, creative coding
- Live coding
- Algorithmic composition
- Real-time audiovisual expression
- Generative art and AI

Thoughts on the Workshop

Technology is not just a “tool” but a “medium” that opens up new ways of thinking and possibilities for expression. I hope that you will find your own unique language of expression through technology.

1-2. Workshop Objectives

What This Workshop Aims For

We aim not only to “use” digital technology but to **“freely manipulate it as a tool for expression.”**

Through 6 days of intensive learning, we will acquire **practical skills to expand your creativity.**

Objective 1: Understanding and Creative Application of Generative AI

Learning Content

- Conceptual understanding of core technologies such as Transformers and LLMs
- Application to image, music, and code generation
- Viewing AI as an “idea source” and “collaborator”
- Methods to incorporate into your creative process

Specific Topics

- Fundamentals of prompt engineering
- Image generation AI (Stable Diffusion, Midjourney, etc.)
- Text generation AI (ChatGPT, Claude, etc.)
- Music generation AI (Suno, Ulio, etc.)

Objective 1: Learning Flow

Day	Time	Content
Day 1	Morning	Opening Session (Orientation, Icebreaker)
Day 1	Afternoon	Workshop 1 “Generative AI and the Future of Creation”

Objective 1: Goals

- Technically understand how generative AI works
- Select and utilize appropriate AI tools for your projects
- Build a new creative style through collaboration between AI and humans

Objective 2: Music Construction Through Live Coding

Using TidalCycles

- Generate music in real-time using code
- Composition and performance based on algorithmic thinking
- Improvisationally rearrange patterns and build complex rhythms

Characteristics of Live Coding

- Generate and modify music in real-time
- Pattern-based composition methods
- Balance of improvisation and reproducibility
- Collaborative development through open-source communities

Objective 2: Learning Flow

Day	Time	Content
Day 2	Morning	Generative AI Creation Workshop Presentation + Workshop 2 “TidalCycles Installation Party”
Day 2	Afternoon	Workshop 3 “What is Live Coding? TidalCycles Basic Tutorial” + Rhythm Pattern Creation (Hands-on)
Day 3	Morning	TidalCycles Basic Tutorial Presentation + Workshop 4 “TidalCycles Practical Tutorial 1 (Chords/Scales, Complex Rhythms)”
Day 3	Afternoon	Workshop 5 “TidalCycles Practical Tutorial 2 (Extensions)” + Mini Performance (Hands-on)

Objective 2: Goals

- Master TidalCycles basic syntax and freely write patterns
- Build music using complex rhythm patterns and effects
- Think by connecting music theory with coding
- Acquire the basic ability to perform improvised live performances

Objective 3: Real-time Audiovisual Expression

Using TouchDesigner

- Visual programming environment
- Generate interactive video in real-time
- Create audiovisual works where sound and video are tightly integrated

Characteristics of TouchDesigner

- Node-based visual programming
- Excellent real-time performance
- Integrates 3D, 2D, audio, video, and data processing
- Supports projection mapping, VJ, installations, etc.

Objective 3: Learning Content

Day	Time	Content
Day 4	Morning	Workshop 6 “TouchDesigner Installation, Introduction”
Day 4	Afternoon	Workshop 7 “TouchDesigner Basic to Intermediate Tutorial” (Live Performance Team Division)
Day 5	Morning	TouchDesigner Tutorial Presentation + Workshop 8 “Audiovisual (Waveform/Spectrum Visualization, TidalCycles Integration)”
Day 5	Afternoon	Workshop 9 “Live Performance Production (Structure, Ideation)” + Preparation (Hands-on)

Objective 3: Goals

- Master TouchDesigner basic operations and create simple visual works
- Analyze audio signals and map them to visual parameters
- Build an integrated system linking TidalCycles and TouchDesigner

Objective 4: Technology Integration and Live Performance

Final Goal

Don't let the learned technologies end as fragmented knowledge

Integrate Generative AI + Live Coding + Audiovisual to build **original live performances**

Importance of an Integrated Approach

- Modern media art is interdisciplinary
- Not just acquiring individual technologies, but “design skills” to combine them are necessary
- Balance of technical implementation ability and artistic expression

Components of Live Performance

1. **Concept** - Theme and message of the work
2. **Sound** - Music part using TidalCycles
3. **Visual** - Video part using TouchDesigner
4. **Interaction** - Integration of sound and video
5. **Direction** - Timing, development, climax

Preparation for Presentation (Day 5 Afternoon - Day 6)

- Concept planning individually or in groups
- Prototype creation and testing
- Rehearsal and polishing

Objective 4: Goals

- Design and implement works integrating multiple technologies
- Project management ability to complete works within limited time
- Communication ability to present your work to others

1-3. Workshop Overall Overview

6-Day Schedule

Day	Theme	Content
Day 1	Generative AI and the Future of Creation	Orientation, AI overview, practice
Day 2	Live Coding Basics	TidalCycles environment setup, basic syntax
Day 3	Live Coding Practice	Advanced patterns, music production
Day 4	Visual Generation Basics	TouchDesigner basic operations
Day 5	Audiovisual Integration	Building sound and video integration systems

2. Administrative Notices and Environment Check

(10:10 - 10:20)

Questions Welcome

- We welcome questions during lectures and practical sessions
- Any trivial questions are OK
- **Having doubts is the first step in learning**

Support System

- Instructors and staff will circulate during production practice
- Questions via online chat are also possible (link to be shared separately)

Break and Manners

Breaks

- Brief breaks between sessions
- Please return promptly after breaks

Manners

- Silence or mute mobile phones
- Use laptops and tablets appropriately
- Respect diverse opinions and expressions

Application Check

Recommended Installed Applications

-  **Google Chrome** - Latest version recommended
-  **Visual Studio Code** - Text editor
-  **TouchDesigner** (※User registration and key required)
 - Free version (Non-Commercial) is fine
 - License key input required at first launch
-  **SuperCollider** - Audio engine for TidalCycles
-  **Git** - Version control system

※TidalCycles installation will be done together by everyone in the afternoon of Day 2

Troubleshooting

If you have installation problems

Instructors and staff will provide support during this time

Especially TouchDesigner license acquisition has many troubles, so please let us know if you haven't completed it

Recommended Resources

Online Communities

- TidalCycles Forum: <https://club.tidalcycles.org/>
- TouchDesigner Forum: <https://forum.derivative.ca/>

Reference Materials

- TidalCycles Official Documentation
- TouchDesigner Official Tutorials
- Instructor's books and blog posts (link collection to be shared later)

Thank You!

See you at the afternoon session!

From 14:00

Workshop 1 “Generative AI and the Future of Creation”

2. Administrative Matters and Environment Check

Questions and Support

Please ask questions anytime!

- Questions are welcome during lectures and practice sessions
- Even the smallest questions are OK
- **Having doubts is the first step in learning**

Support System

- Instructors and staff will circulate during production practice
- Questions via online chat are also possible (link to be shared separately)

Breaks and Etiquette

Breaks

- We will provide breaks as appropriate between each session
- Long coding sessions require concentration, so we recommend frequent breaks
- Break time is also a valuable opportunity for interaction

Workshop Rules and Etiquette

- Please be considerate not to disturb other participants' learning
- Photography and video recording for personal notes is allowed; please confirm before posting on social media
- Copyright of works belongs to the creator
- Let's respect each other's works and opinions and provide constructive

Application Confirmation

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- **SuperCollider** - TidalCycles audio engine
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※TidalCycles installation will be done together on Day 2 afternoon

Troubleshooting

For those with installation issues

Instructors and staff will provide support during this time

TouchDesigner license acquisition often has issues, so please speak up if incomplete

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