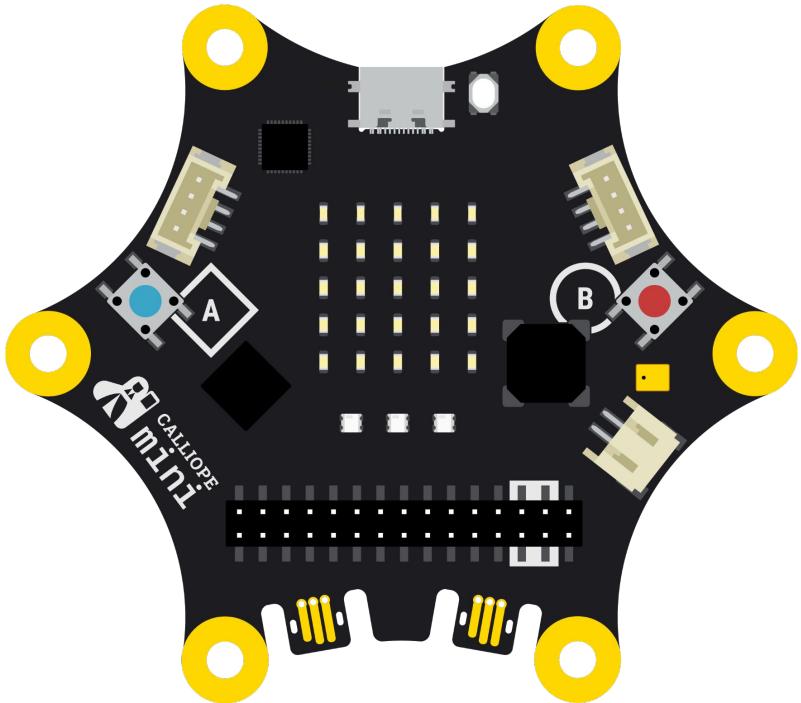
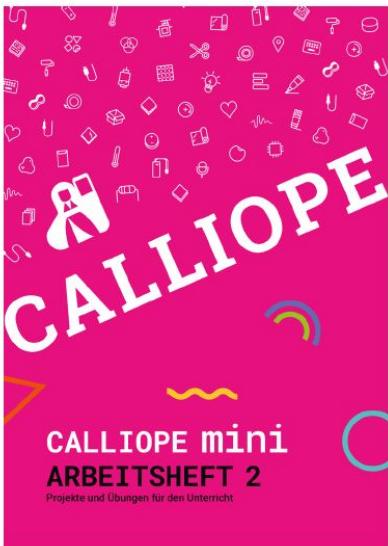


# CALLIOPE MINI



# ARBEITSHEFT 2



## ZUM AUSDRUCKEN UND ARBEITEN AUF DEM IPAD

## VORLAGEN

## VORBEREITUNG/ UNTERRICHT

## LÖSUNGEN FORMAT: .HEX

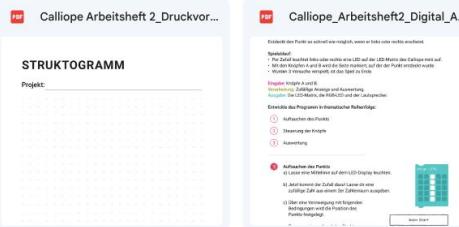
## STRUKTOGRAMME DRUCKVERSION



## Dateien



## LÖSUNGSSHEFT



## ZUM ARBEITEN AM COMPUTER

## AKTUALISIERTE SEITEN



## CALLIOPE

# ERFOLGE UNSERER MATERIALIEN

Calliope mini App Downloads iOS:  
**3.190.000**

Calliope mini Blocks Downloads iOS:  
**239.000**

Arbeitshefte Downloads:  
**>100.000**

Arbeitshefte Print:  
**>27.000**

Arbeitshefte/Specials iBook Store:  
**>185.000**



# SERVOBOARD



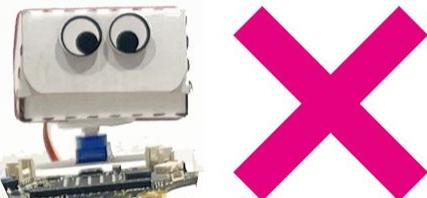
CALLIOPE

# SERVOBOARD



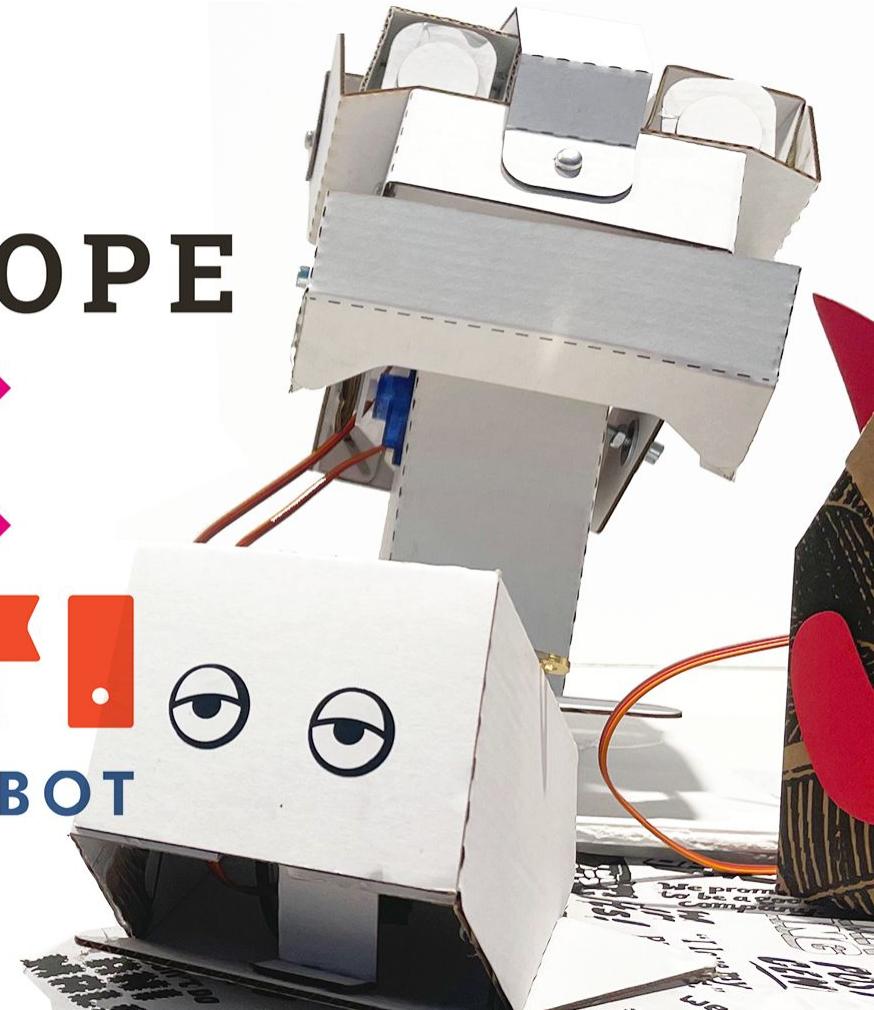
MAKERSPACE

CALLIOPE

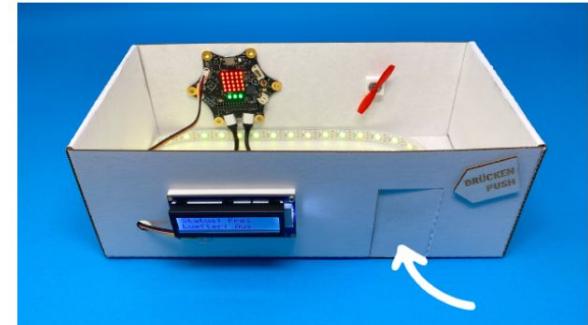


LOFI

LOFI ROBOT



# MAKERSPACE



CALLIOPE

# MAKERSPACE



Prototyping



3D-Druck



Lasercut



# CODE YOUR SCHOOL

Der BNE, Design Thinking Wettbewerb!

ZIELE FÜR  
NACHHALTIGE  
ENTWICKLUNG

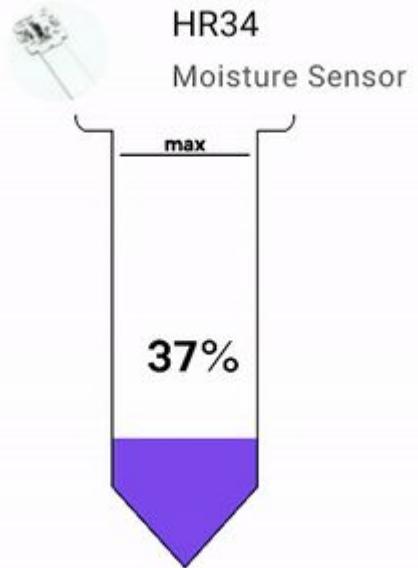


# CLIMATE ACTION KIT



CALLIOPE

# CLIMATE ACTION KIT



JACDAC



CALLIOPE

# CLIMATE ACTION KIT



TUTORIAL

## Positional Servo

Learn about how to use the Positional Servo in the Climate Action Kit.



TUTORIAL

## Water Pump

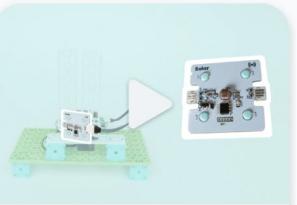
Learn about how to use the Water Pump in the Climate Action Kit.



TUTORIAL

## Continuous Servo

Learn about how to use the Continuous Servos in the Climate Action Kit.



TUTORIAL

## Solar Sensor

Learn about how to use your Solar Sensor in the Climate Action Kit.



TUTORIAL

## Touch Sensor

Learn about how to use your Touch Sensor in the Climate Action Kit.



TUTORIAL

## Sonar Sensor

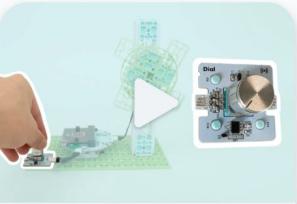
Learn about how to use your Sonar Sensor in the Climate Action Kit.



TUTORIAL

## LED Ring

Learn about how to use your LED Ring in the Climate Action Kit.



TUTORIAL

## Dial

Learn about how to use your Dial Component in the Climate Action Kit.



TUTORIAL

## Line Sensor

Learn about how to use your Line Sensor in the Climate Action Kit.

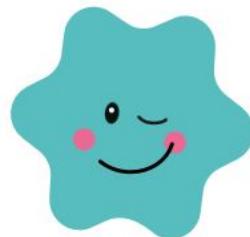
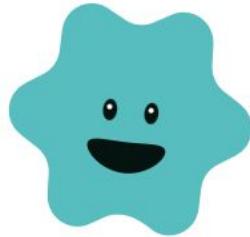


TUTORIAL

## Moisture Sensor

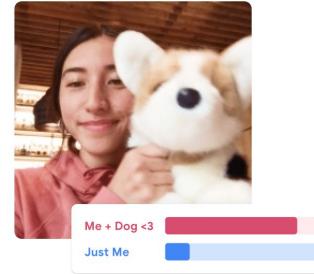
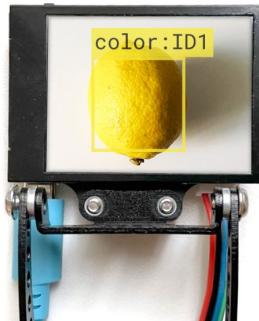
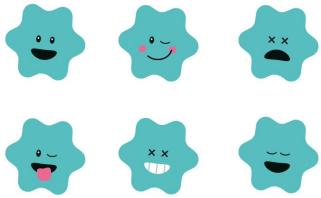
Learn about how to use your Moisture Sensor in the Climate Action Kit.





# CALLIOPE KI

Von analogem Grundwissen über "Vise Coding" zu angewandten Maschinellem Lernen



CALLIOPE

# CALLIOPE KI

The screenshot shows the CALLIOPE KI web interface. On the left, there are two sections for adding image examples: "Class 1" and "Class 2". Each section has a text input field labeled "Bildbeispiele hinzufügen:" and three buttons: "Webcam", "Hochladen" (Upload), and "Gerät" (Device). A large curly brace on the right side of these sections groups them together. To the right of this group is a "Training" panel. The "Training" panel has a sub-section titled "Modell mit eingebetteten Bildern trainieren". Below this are several configuration options: "Erweitert" (Advanced) with dropdowns for "Epochen" (50) and "Batchgröße" (16), a "Lernrate" (Learning rate) of "0,001", and a "Details" section. A small note in the "Training" panel states: "Du musst links ein Modell trainieren, um es hier als Vorschau ansehen zu können." (You must train a model on the left to view it here as a preview.) To the right of the "Training" panel is a "Vorschau" (Preview) panel. This panel contains a "Modell exportieren" (Export model) button and a note: "Vorschau" and "Modell exportieren".



# CALLIOPE KI

- Maximale Werte 
- Minimum Werte 
- Mittlere 
- Standardabweic... 
- Anzahl der Extre... 
- Gesamtbeschleu... 
- Rate des Nulldur... 
- Mittleres Wurzelq... 

Learning rate

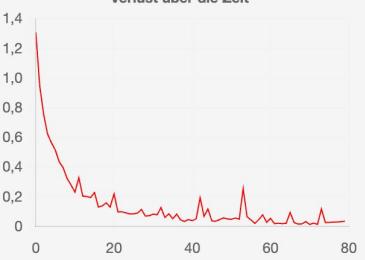
Epochs

Nodes

Batch size

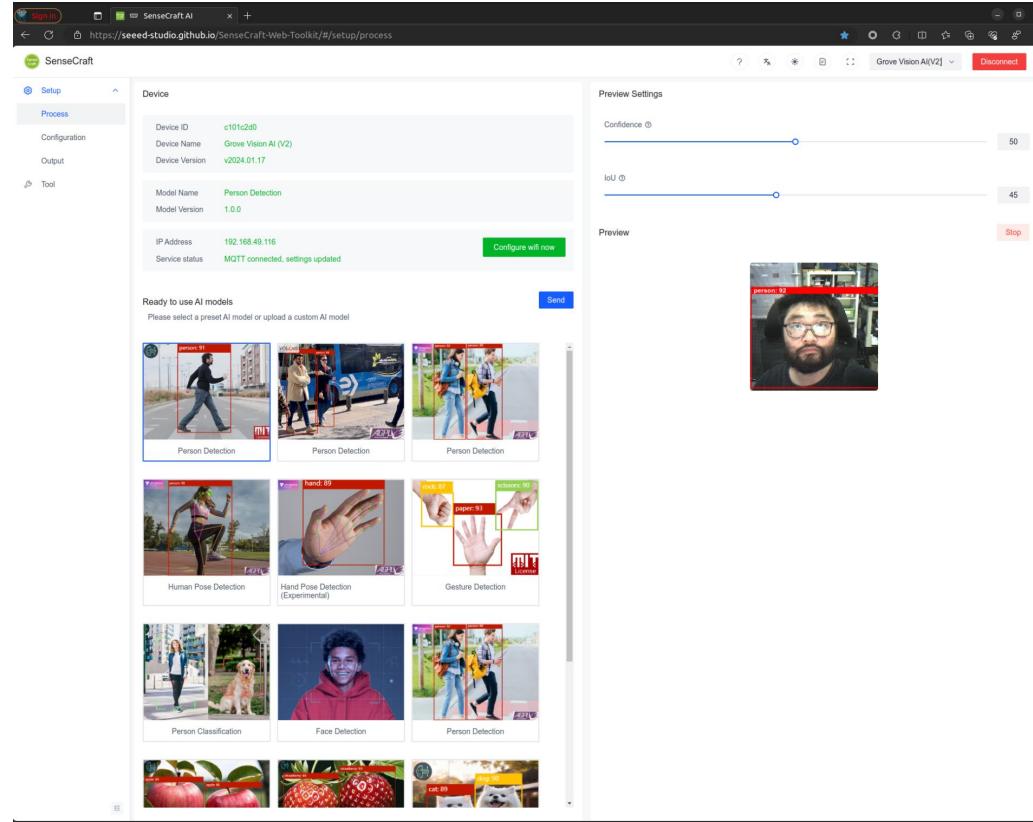
**Ein neues Modell trainieren**

Verlust über die Zeit





# CALLIOPE KI



# CALLIOPE IO



CALLIOPE

# CALLIOPE IO: WIFI-MODUL UND IOT-HUB

Umweltdaten messen, analysieren, verarbeiten – egal wo.

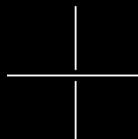


HELLO WORLD!

```
2013-09-11 11:51:27 - 99  
2013-09-11 11:51:29 - 32  
2013-09-11 11:51:30 - 38  
2013-09-11 11:51:31 - 39  
2013-09-11 11:51:32 - 39  
2013-09-11 11:51:38 - 37  
2013-09-11 11:51:39 - 79  
2013-09-11 11:51:40 - 55  
2013-09-11 11:51:42 - 55  
2013-09-11 11:51:43 - 60  
2013-09-11 11:51:46 - 69  
2013-09-11 11:51:48 - 63  
2013-09-11 11:51:49 - 63  
2013-09-11 11:51:50 - 61  
2013-09-11 11:51:52 - 27
```



Hello world! This is a different type of text block that works for larger quantities of data.



CALLIOPE

Wie wäre es, wenn Aufgaben individueller verteilt werden könnten?



... wenn der Unterricht leichter und schneller vorbereitet werden könnte?



... wenn die Aufmerksamkeit der Gruppe  
besser gesteuert werden könnte?



**... wenn die aktiven Programme aller Schüler:innen gleichzeitig angeschaut werden könnten?**



... wenn das Weiterarbeiten zu Hause  
einfach möglich wäre?



... wenn Tipps an alle oder eine Person  
direkt gegeben werden könnten?



... wenn die Daten der gesamten Gruppe in einer Datei gespeichert werden könnten?



# CALLIOPE CAMPUS

The image shows the Calliope Campus software interface, which is a Scratch-like programming environment for the Calliope Mini microcontroller. The interface is divided into several sections:

- Top Bar:** Features the "Calliope Campus" logo, a "Create new Program" button, and a search bar. The top right corner shows "Klassenraum", "CA Calliope", and "DE".
- Left Panel:** Displays a list of programs, with "Aufgabe 1: Knöpfe" (2 days ago) currently selected. It includes "Export Programs" and "Import Programs" buttons, and a "Chat" section with a message about no messages in the room.
- Middle Panel:** Shows a simulation of the Calliope Mini robot with various sensors and actuators. Below the robot are control buttons for "Stop", "Run", "Stop", "Sound", and "Reset".
- Right Panel:** Displays the Scratch-style script editor. The script for the robot includes two "when Knopf A geklickt" blocks and two "when Knopf B geklickt" blocks. Each block contains a "show [red icon]" and a "set [color] to [red]" block. The script editor also includes a search bar and a sidebar with categories: Grundlagen, Eingabe, Musik, LED, Schleifen, Logik, Variablen, Mathematik, Motoren, Erweiterungen, and Fortgeschritt.
- Bottom Panel:** Includes a message bar for sending public or private messages, a "Message everyone..." input field, a "SEND" button, a "Herunterladen" (Download) button, and a set of small control icons.

# CALLIOPE CAMPUS

Arbeitsräume

Vergabe von Aufgaben

Stundenverlauf leichter planbar

Übersicht aller Personen

Zeitlich unabhängig bearbeitbar

Pausieren der gesamten Gruppe

Austausch per Chat

Speicherung aller Daten

Klassenraum

GENIE

CAMPEN

FELS

FLEXIBEL

BEITREten

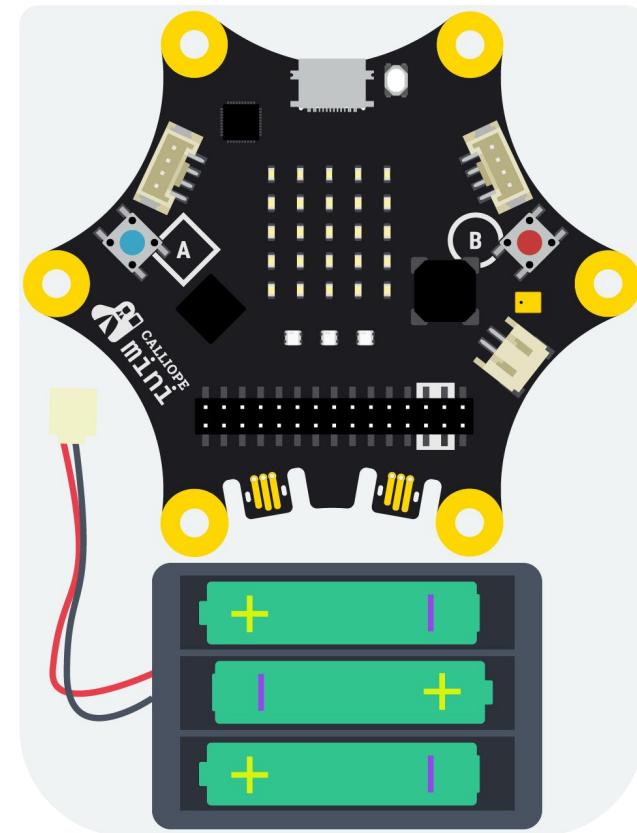
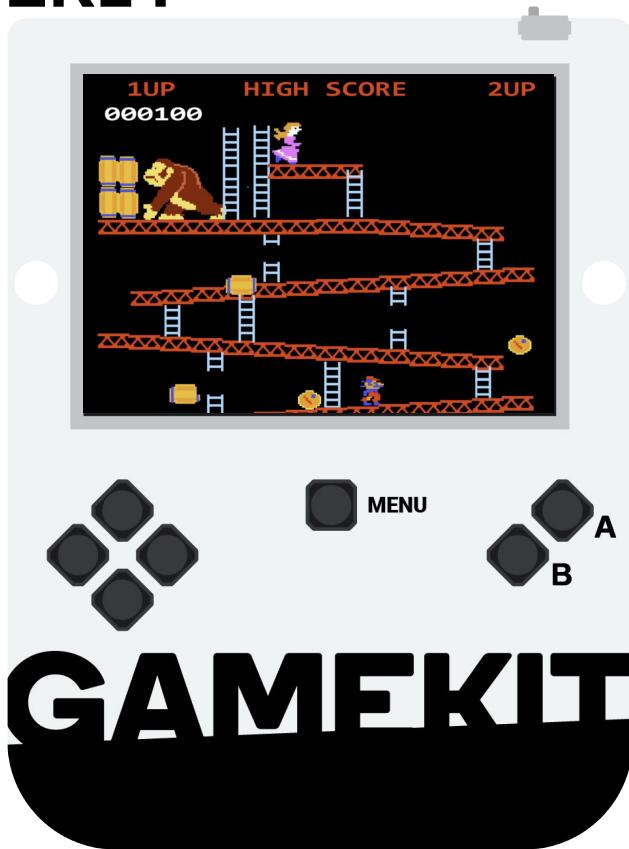
BEITRITT  
OHNE KONTO



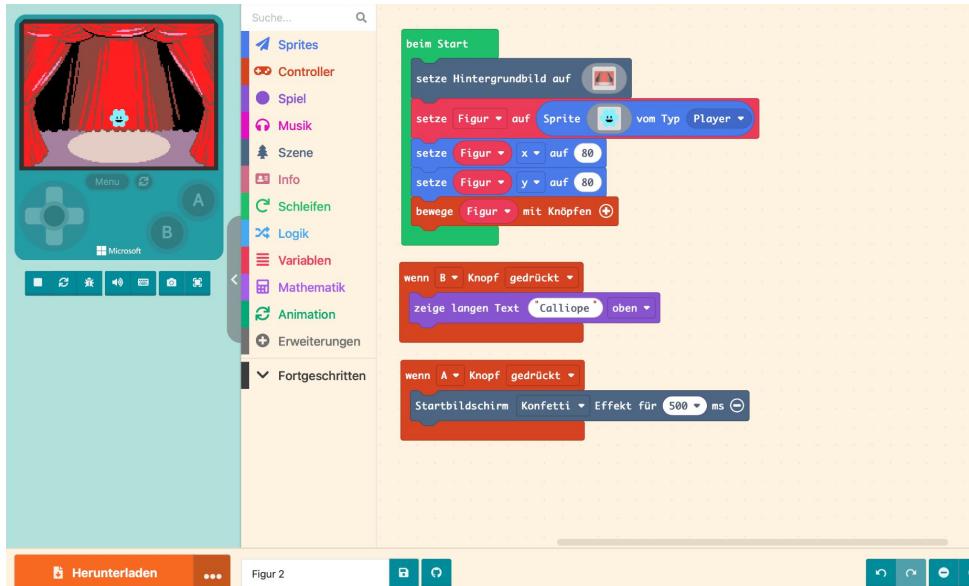
# GAMEKIT



# GAMEKIT



# MAKECODE ARCADE



CALLIOPE

# DISPLAY SHIELD EXTENSION

The screenshot shows the Microsoft MakeCode editor interface for the CALLIOPE mini. The top navigation bar includes the Microsoft logo, the device name 'CALLIOPE mini', a 'Blöcke' (Blocks) button, a 'JavaScript' dropdown, and a menu bar with icons for home, share, help, and settings.

The left sidebar features a schematic diagram of the CALLIOPE mini board with various components and pins labeled A, B, and C. Below the schematic is a preview of a micro:bit board showing a small blue flower icon on its screen. The sidebar also contains a search bar and a list of categories: Grundlagen, Eingabe, Musik, LED, Funk, Schleifen, Logik, Variablen, Mathematik, Motoren, Controller, Drawing, Erweiterungen, and Fortgeschritten.

The main workspace displays a script consisting of the following blocks:

- beim Start:
  - setze bitmap auf [blue flower icon]
  - draw bitmap in screen at x 60 y 60
- on left button pressed:
  - scroll screen by x -1 y 0
- on right button pressed:
  - scroll screen by x 1 y 0
- on up button pressed:
  - scroll screen by x 0 y -1
- on down button pressed:
  - scroll screen by x 0 y 1

At the bottom of the workspace are download and share buttons, and a toolbar with icons for file operations, undo, redo, and other functions.



CALLIOPE

# MICROCODE



# VIELEN DANK



CALLIOPE