



SysBas

Javascript

Teensy

SuperCollider

Max

Huisregels

We beoordelen geen opdrachten per mail

Altijd 3 weken de tijd per opdracht

Anders in de herkansingsweek (januari - juni)

Huisregels

Vraag alles wat je wil vragen

Laat weten als je vastloopt

Gebruik onze hulpbronnen - Syllabus!

Huisregels

AI

promptvermelding

fraude / plagiaat

SysBas 1A

Computerhistorie

Computergebruik

Programmeerbasis

SysBas 1A

Computerhistorie

Waar komt de computer vandaan?

Hoe is de computer geëvolueerd

Hoe werkt de computer?



A laptop is shown from a low angle, open. The screen displays an abstract digital artwork with a dark blue and black background, featuring numerous white, glowing, oval-shaped particles or data points that appear to be moving or floating. The laptop is dark-colored, and the keyboard area is visible at the bottom.

SysBas 1A

Computergebruik

Hoe beheer je jouw computer?

Hoe werk je snel met jouw computer?

Hoe blijf je de baas over jouw computer?

SysBas 1A

Programmeerbasis

Syntax

Logica

Inzicht

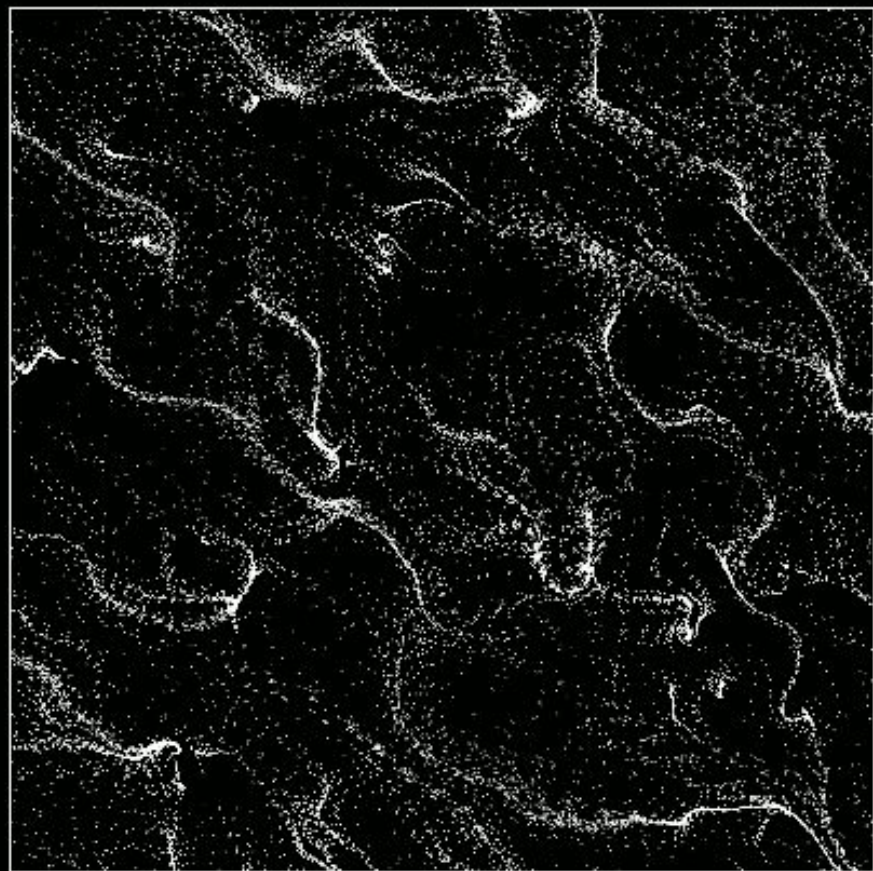
SysBas 1A

Programmeerbasis

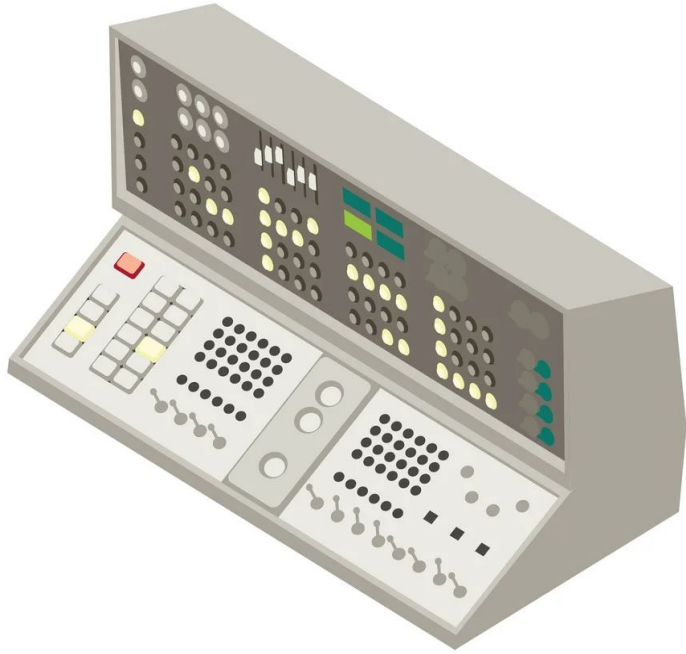
Algoritmische compositie

Visuele feedback

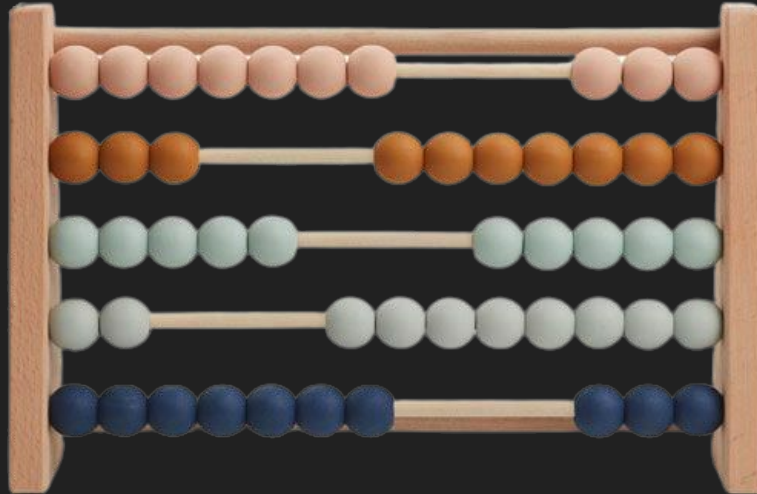
Geluid



Computerhistorie



Computer = rekenaar

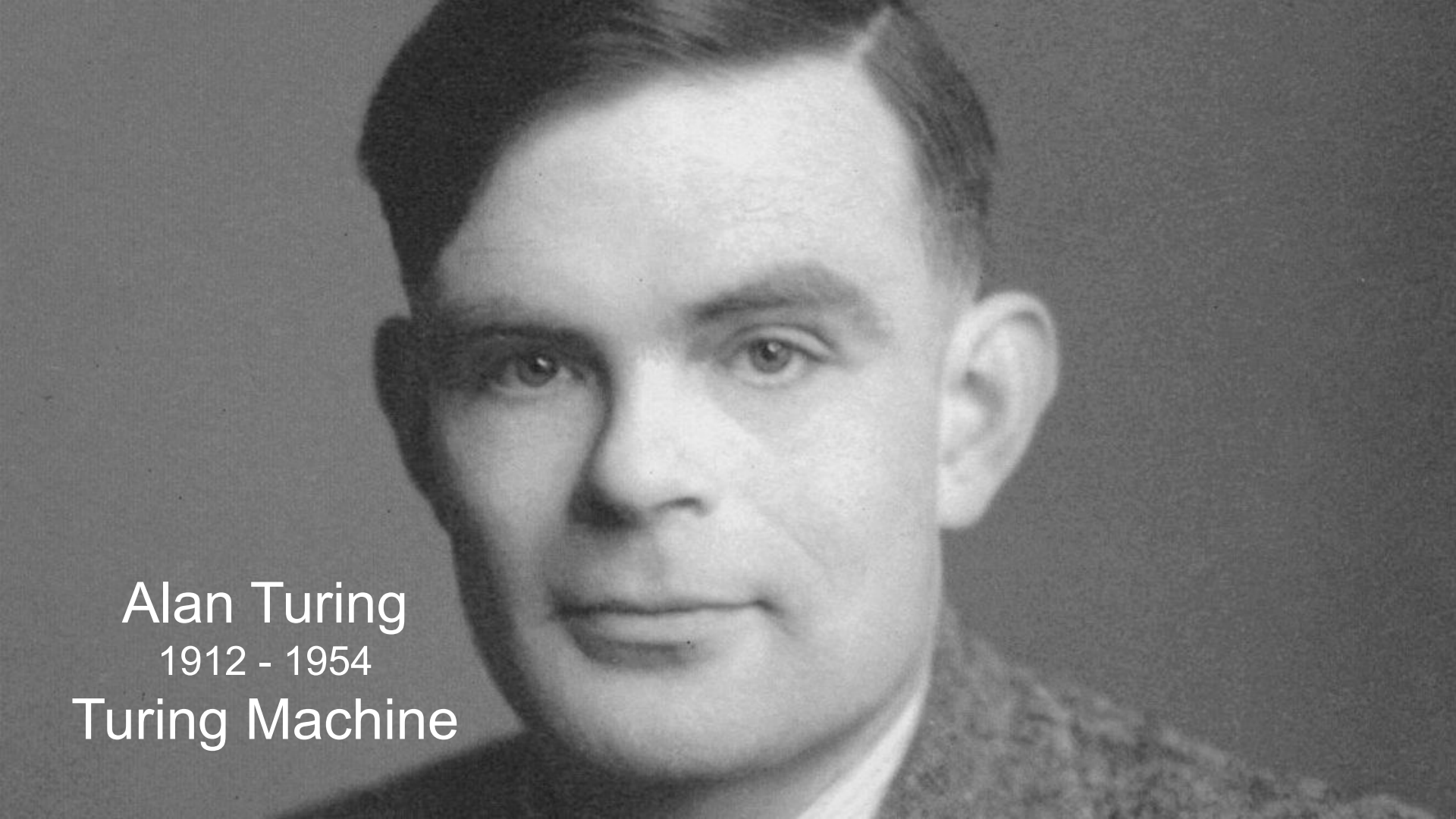




Katherine Johnson

1918 - 2020

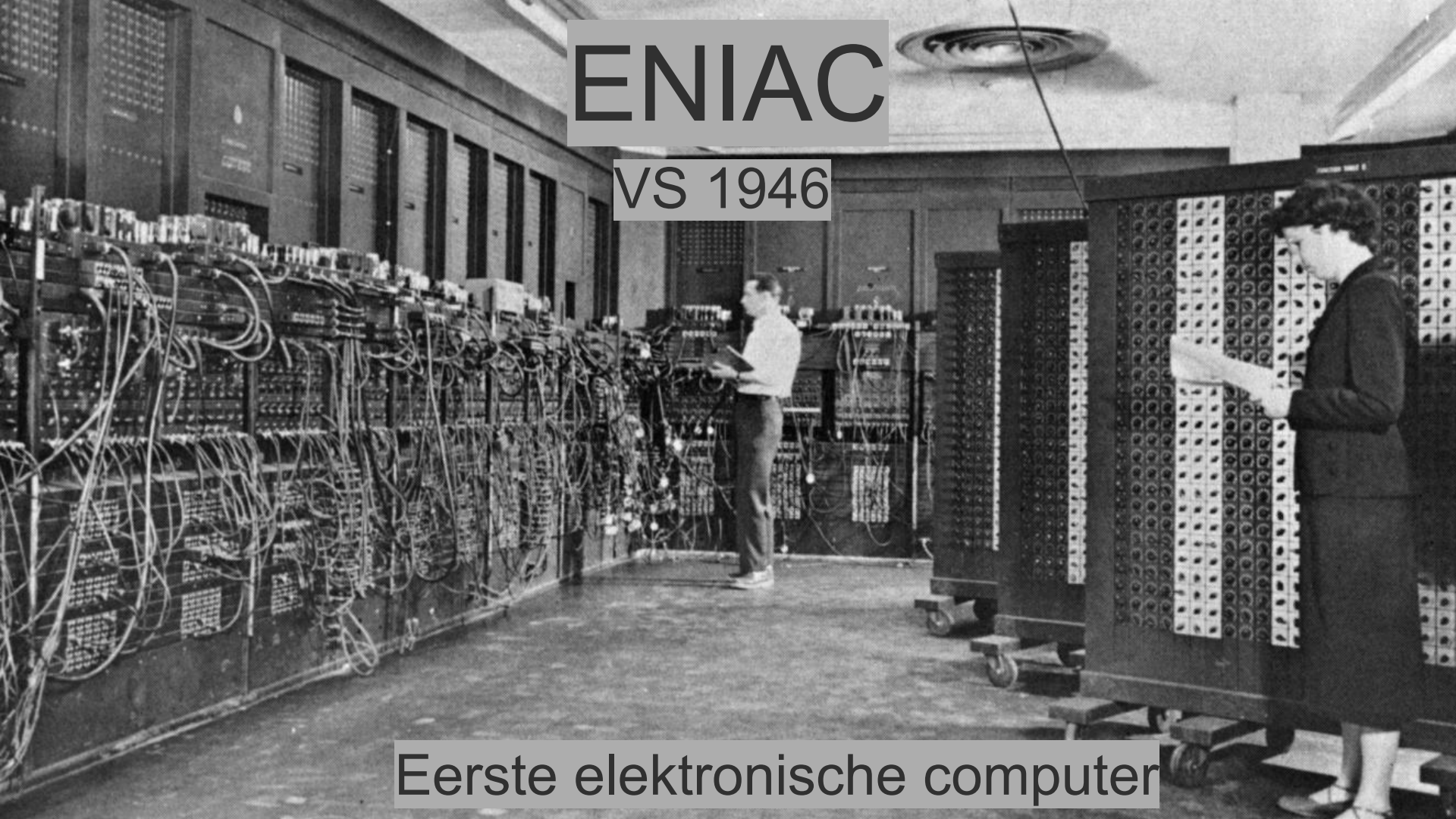
NASA Computer

A black and white portrait of Alan Turing, a man with short dark hair, looking directly at the camera with a neutral expression. He is wearing a dark jacket over a light-colored shirt. The background is a solid, dark grey.

Alan Turing
1912 - 1954
Turing Machine

ENIAC

VS 1946



Eerste elektronische computer

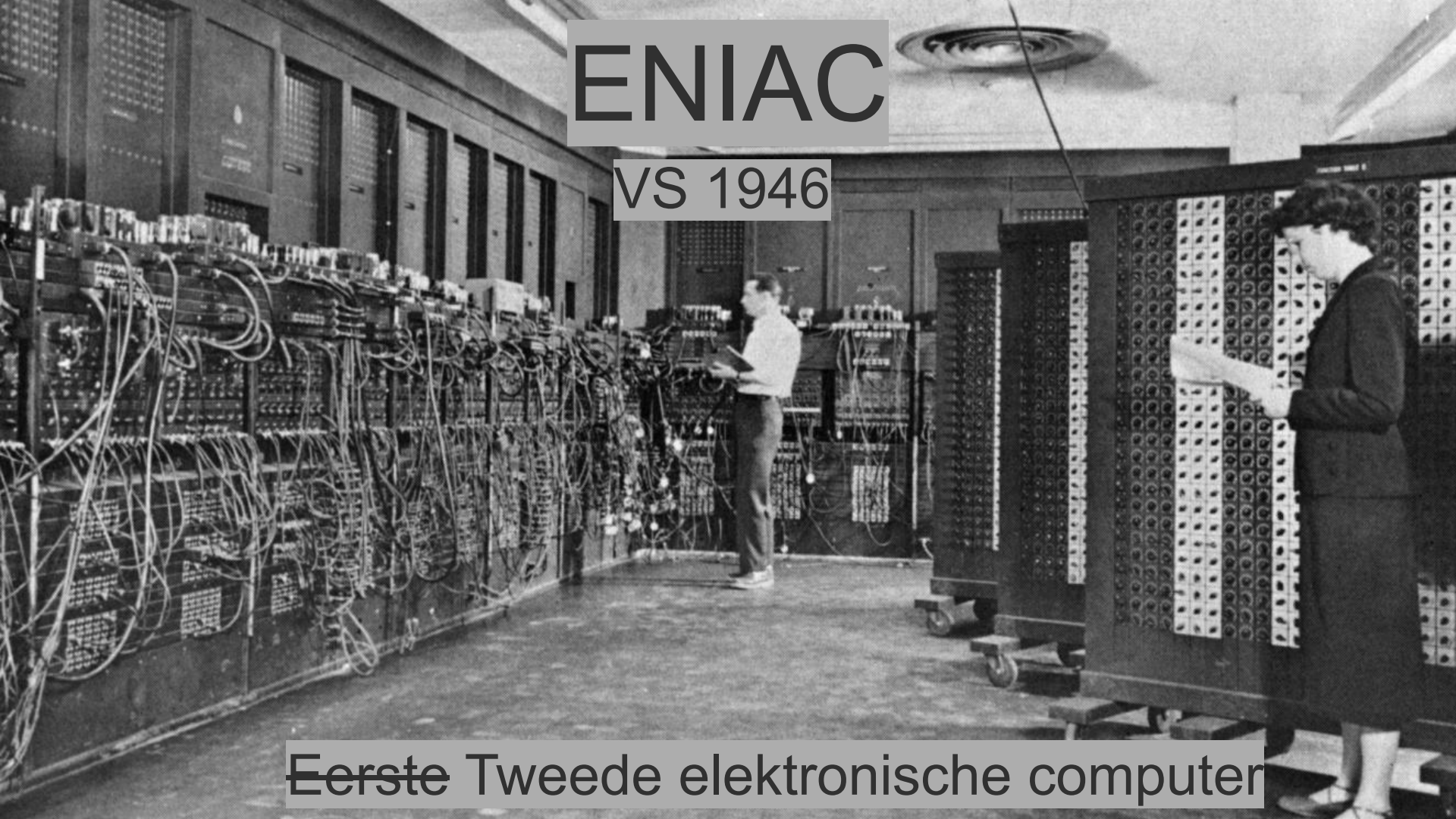
ENIAC



Eerste elektronische computer

ENIAC

VS 1946



~~Eerste~~ Tweede elektronische computer

Colossus

VK 1943

Eerste elektronische computer





CSIRAC

1949

eerste computer die muziek speelde



CSIRAC



CSIRAC

eerste computer die muziek speelde

Daphne Oram Oramics

1959



Oramics

1959



11:49 NEWS 11:49 NURSE ARRESTED ON THURSDAY - VICTORINO CHI

THE C64

Commodore 64

1982

“a true music synthesizer”

Commodore 64



Laurie Spiegel

Music Mouse

1986



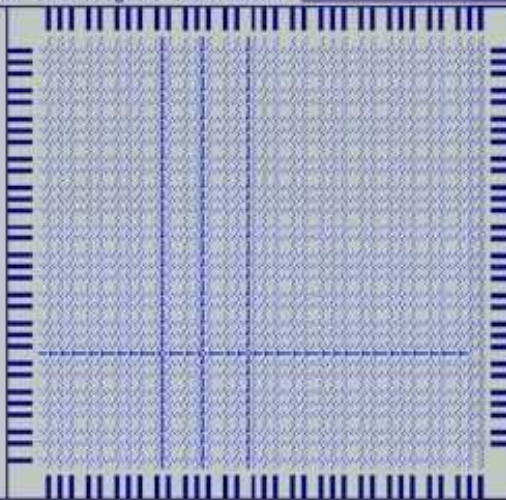
Laurie Spiegel

Music Mouse

Press HELP key to activate menus.

Music Mouse - An Intelligent Instrument

Voices:	1 2 3 4
MIDI Chan:	1 2 3 4
Harmonic Model:	Diatonic
Treatment:	Chord
Transposition:	0
Interval of Transp:	4
Pattern:	1 = ON
House Movement:	Parallel
Pattern Movement:	Parallel
Articulation:	Legato
Loudness:	100
Sound:	1
Velocity:	100
ModWheel:	3
BreathControl:	45
FootControl:	65
AfterTouch:	64
Portamento:	0
Display Mode:	Output
Group:	OFF
Tempo 1:	= 92
Tempo 2:	200
MIDI-Output:	ON



Rekenkracht

Een gemiddelde smartphone heeft zo'n 1,048,576x meer RAM geheugen dan de Apollo boordcomputer



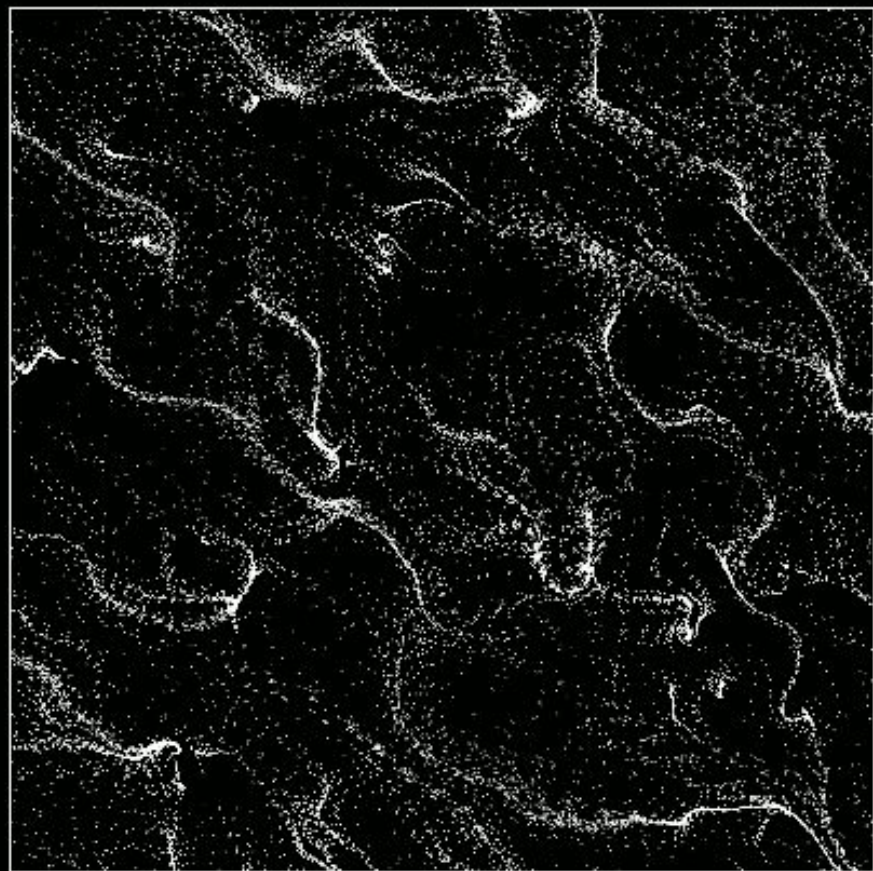
Practicum

CSDOSC + p5js

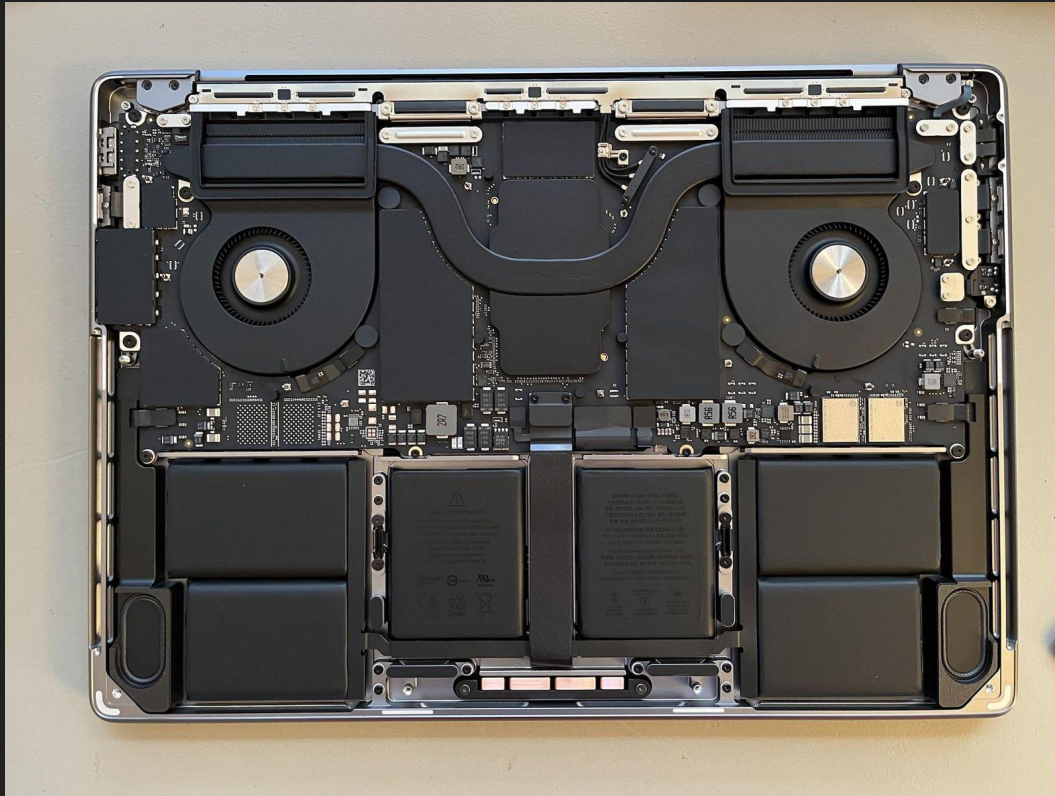
Softwarepakket om makkelijk te werken voor CSD

Windows gebruikers

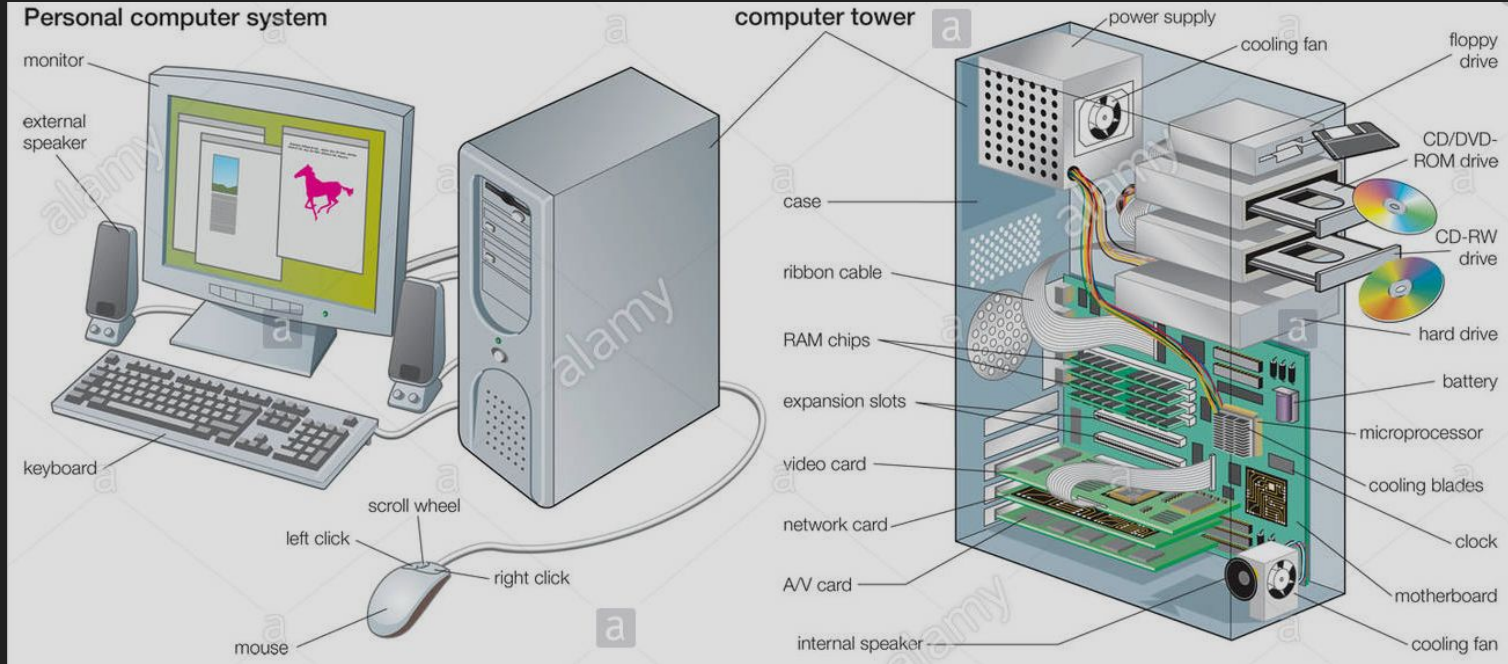
Linux Subsystem for Windows (Ubuntu)



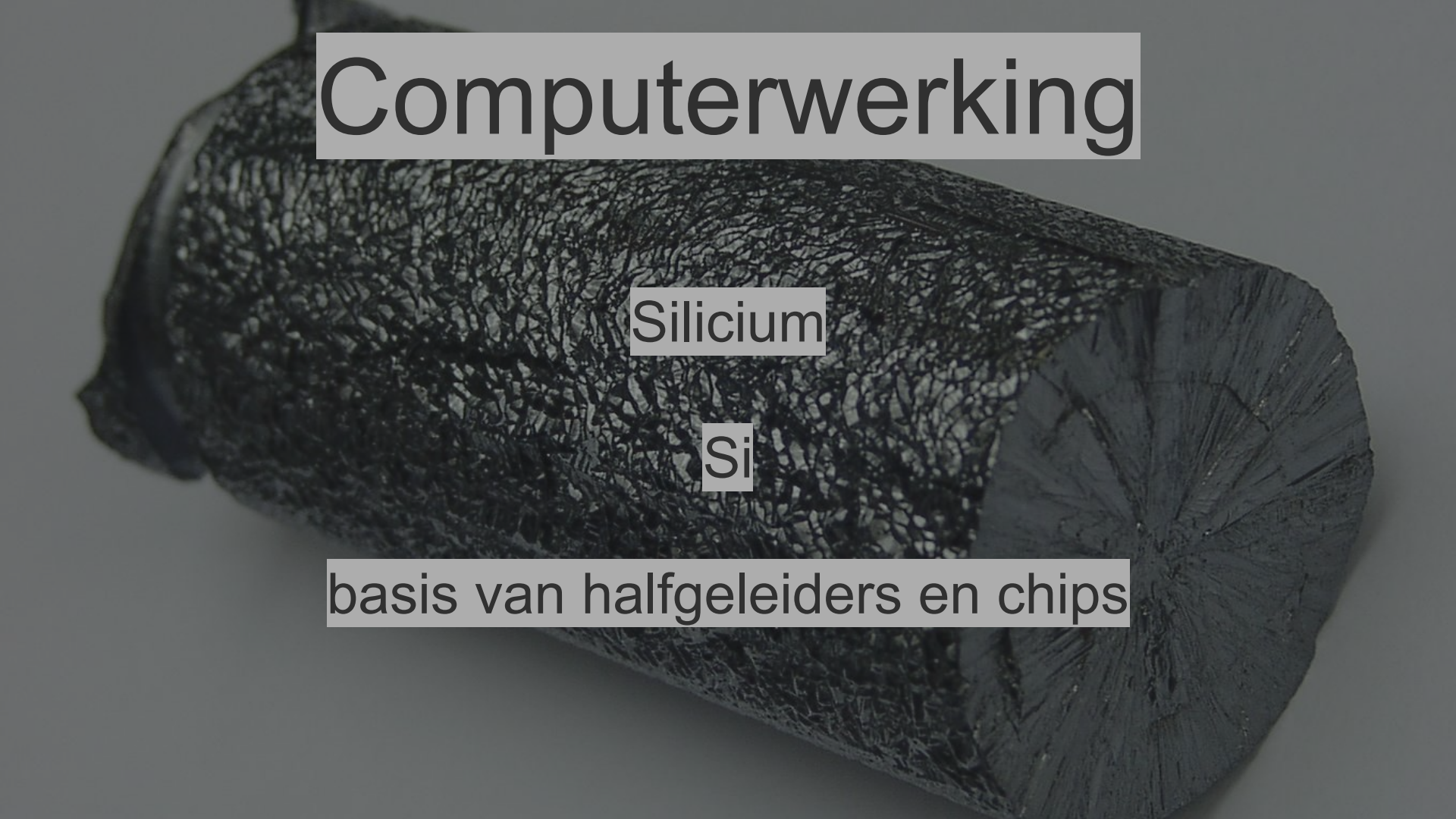
Wat zit er in een computer?



Wat zit er in een computer?



Computerwerking



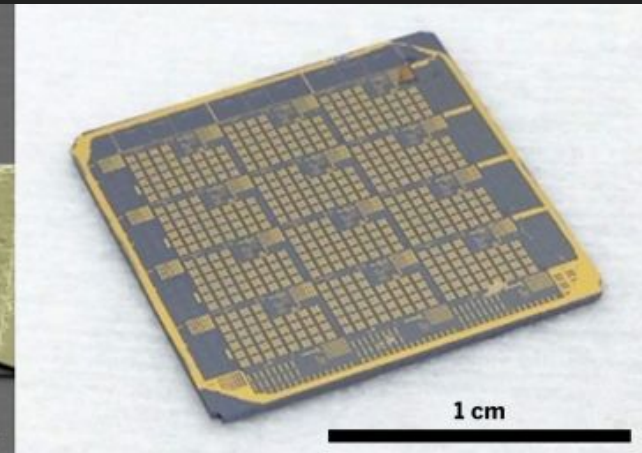
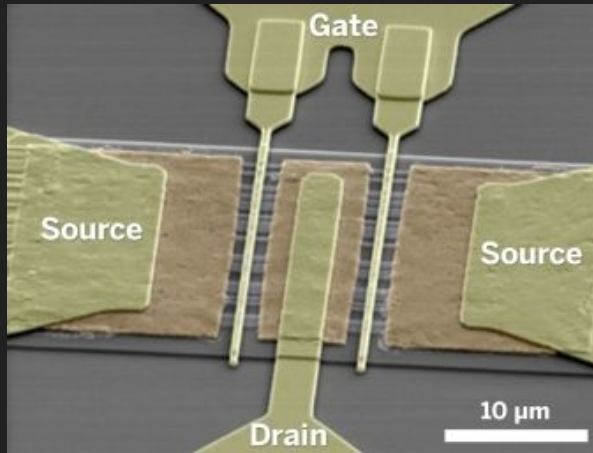
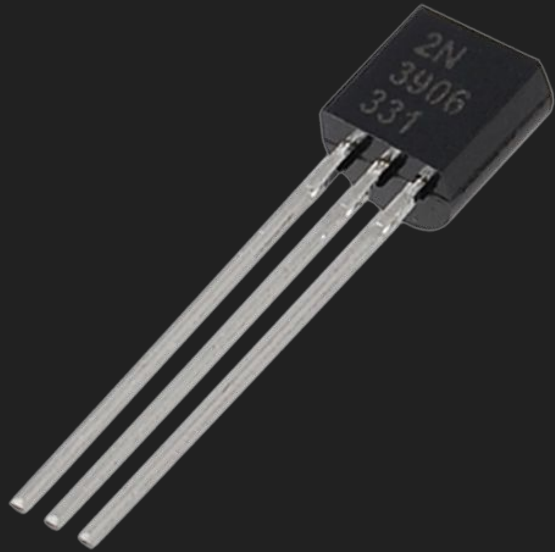
Silicium

Si

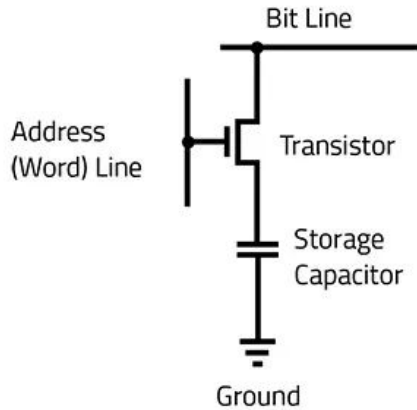
basis van halfgeleiders en chips

Transistor

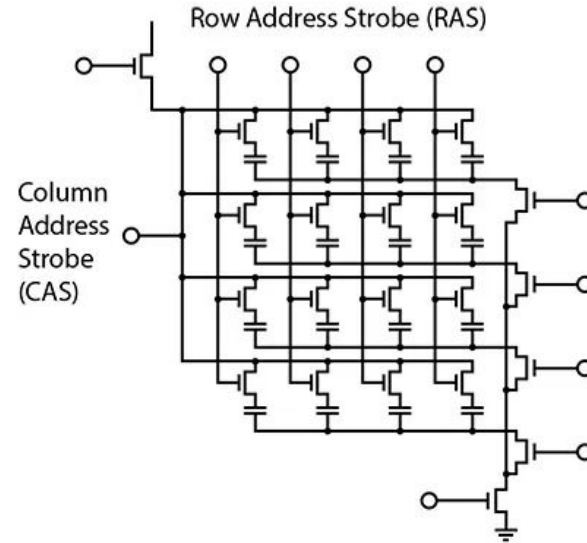
Schakelaar / versterker



Transistor

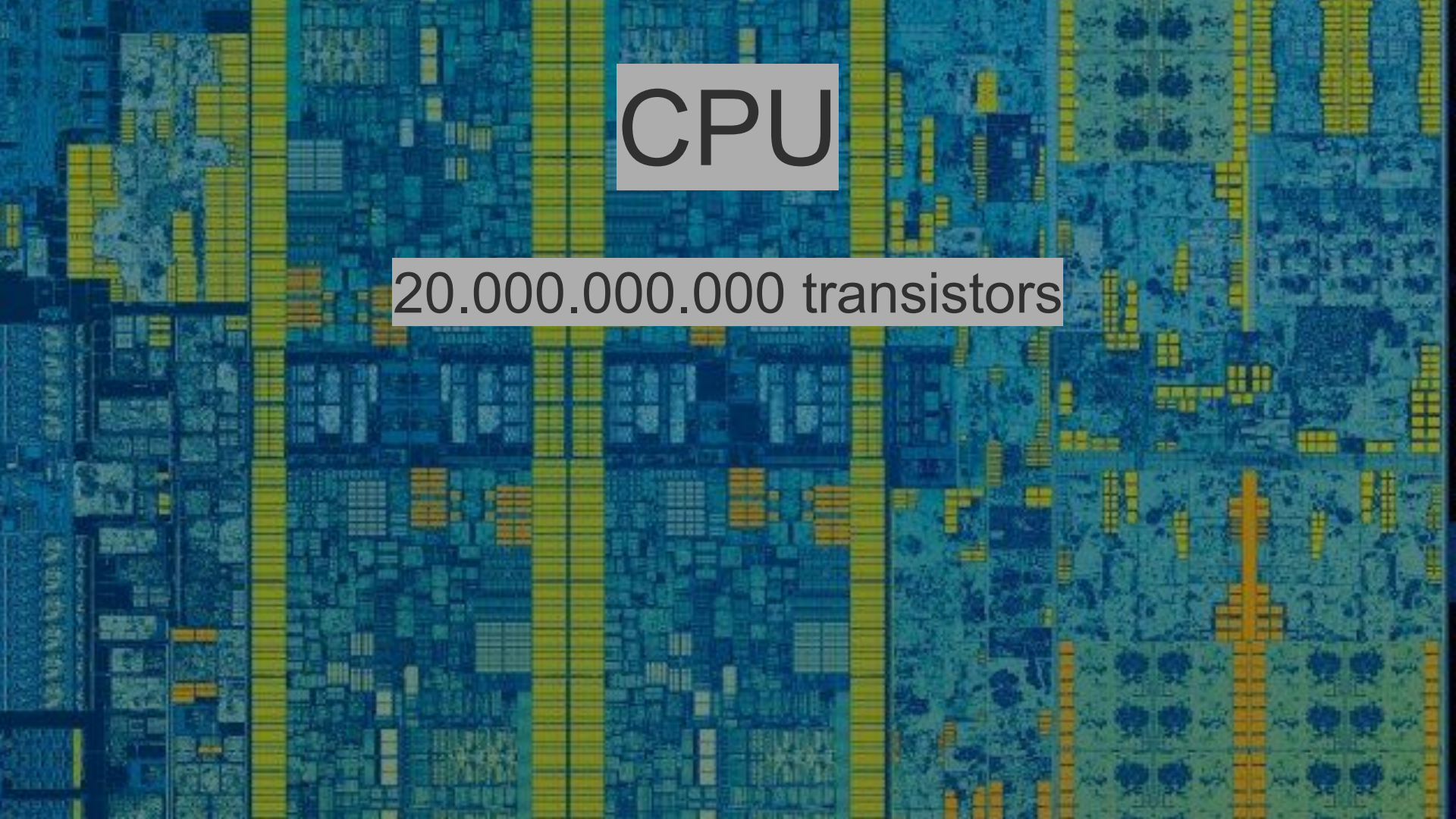


Single Memory Cell



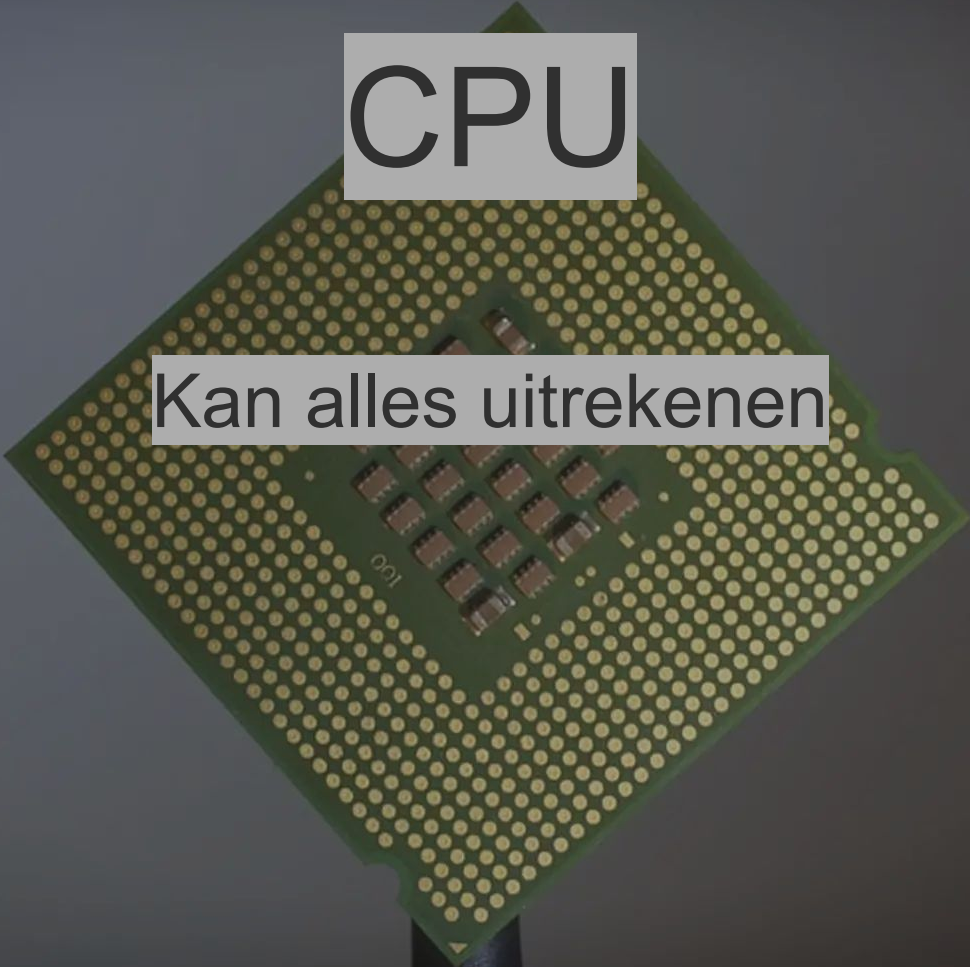
Memory Cell Array

Licensed under CC-BY by the authors Hannah Ritchie and Max Roser.

A high-magnification microscopic image of a CPU die, showing a complex grid of circuitry with various colored regions (blue, yellow, orange) representing different functional blocks and interconnects.

CPU

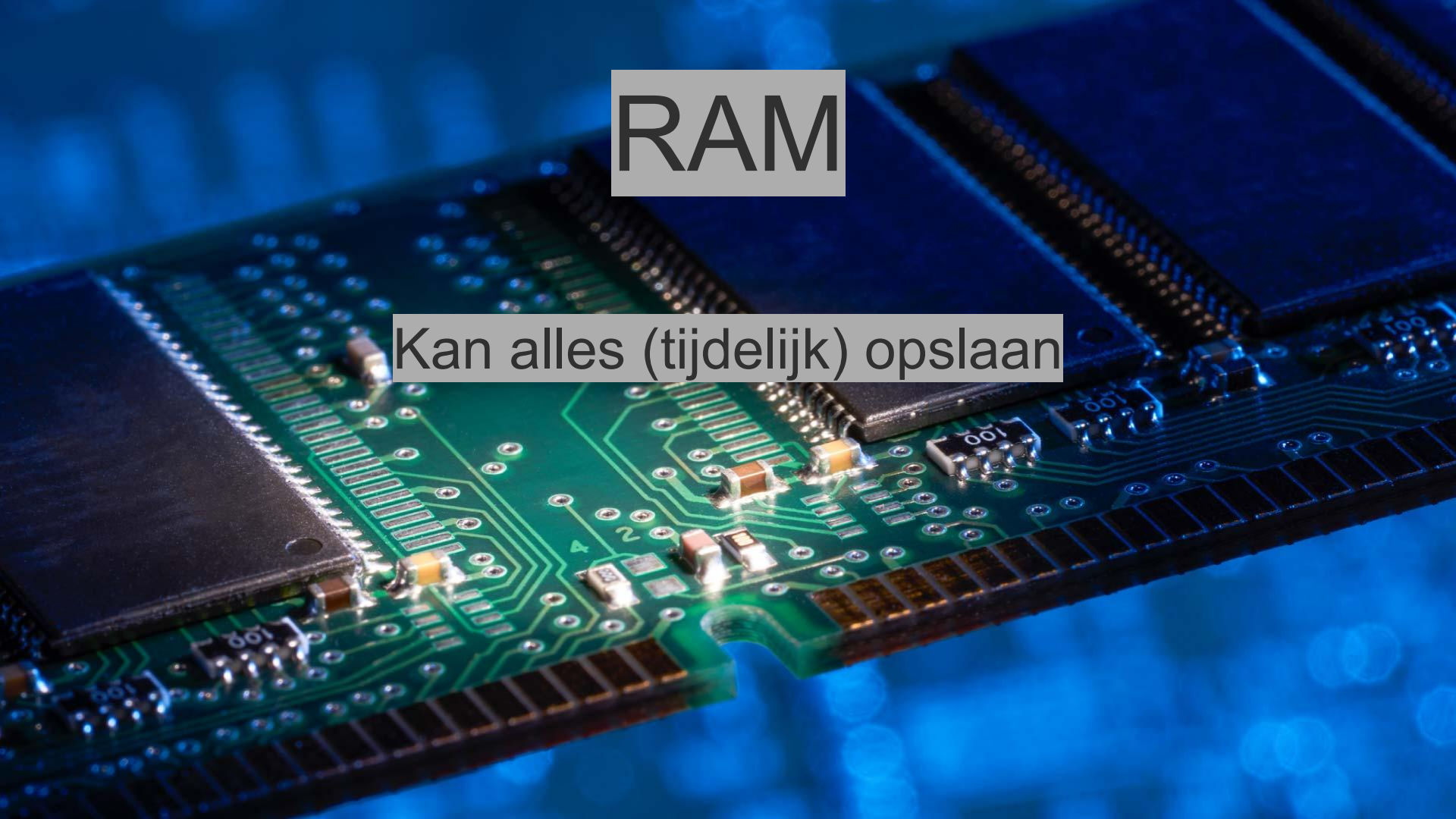
20.000.000.000 transistors



CPU

Kan alles uitrekenen

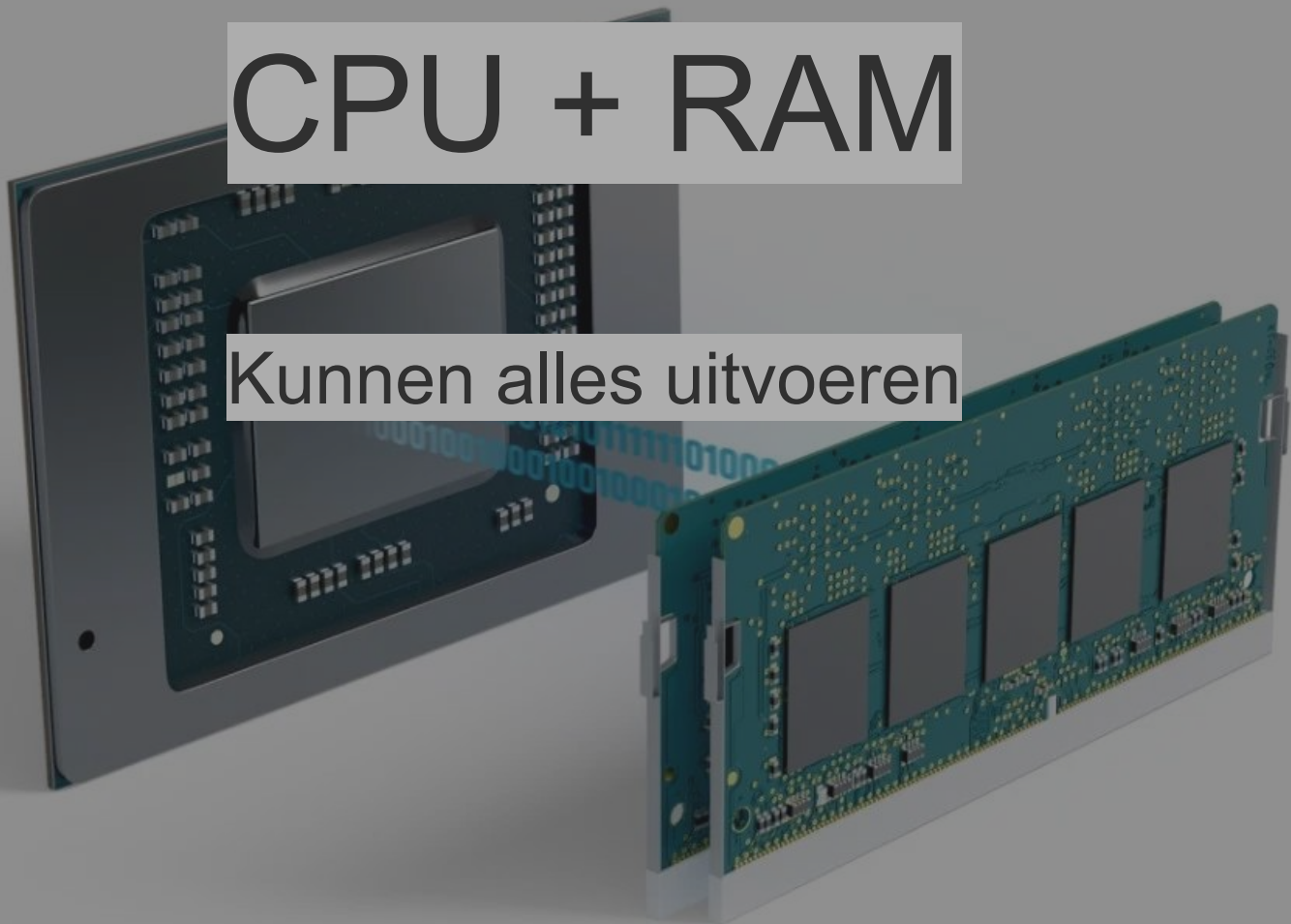
RAM

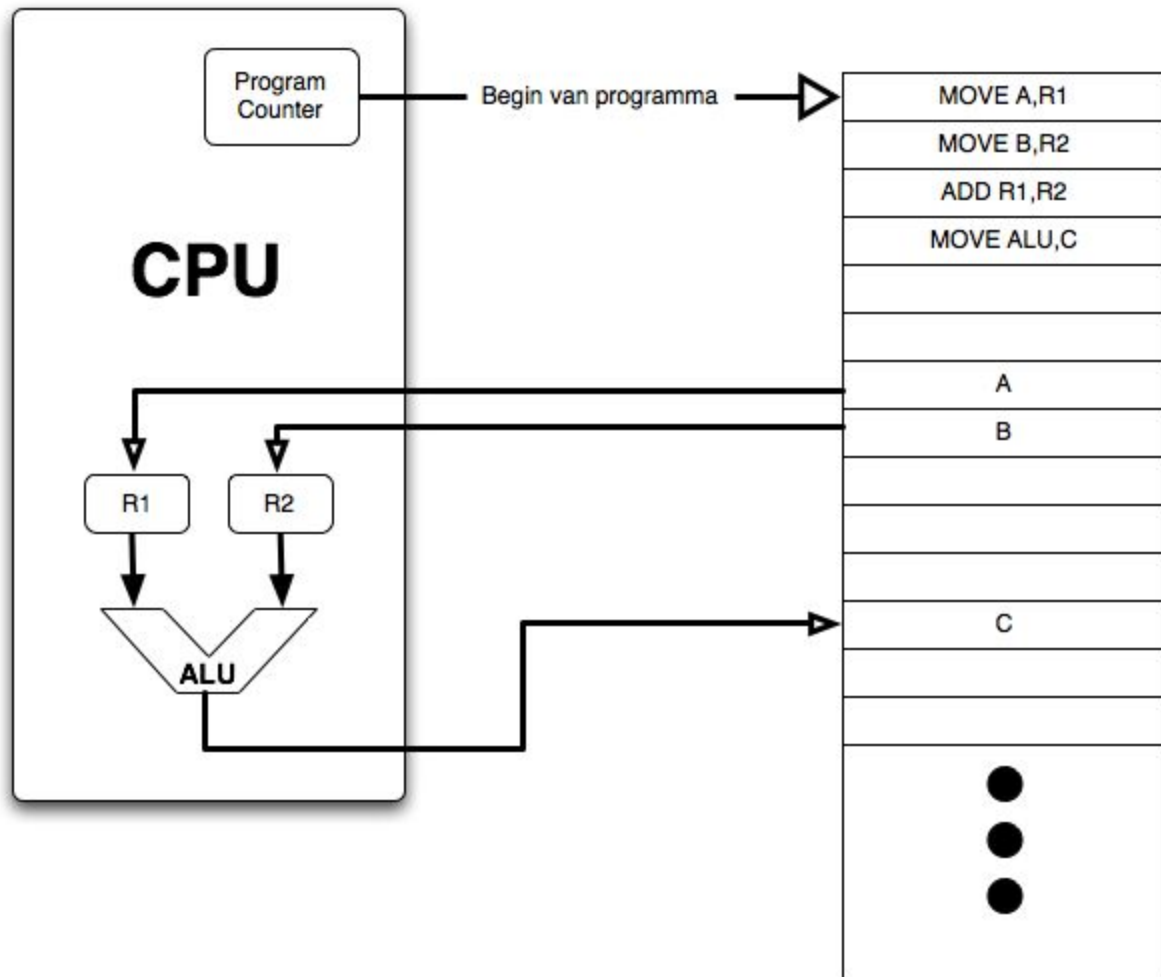
A close-up photograph of a green printed circuit board (PCB) populated with various electronic components. The board features several integrated circuits, including a large black chip on the left and a smaller black chip in the center. Numerous gold-plated pins are visible along the edges of the components. The background is a soft, out-of-focus blue with bokeh light effects.

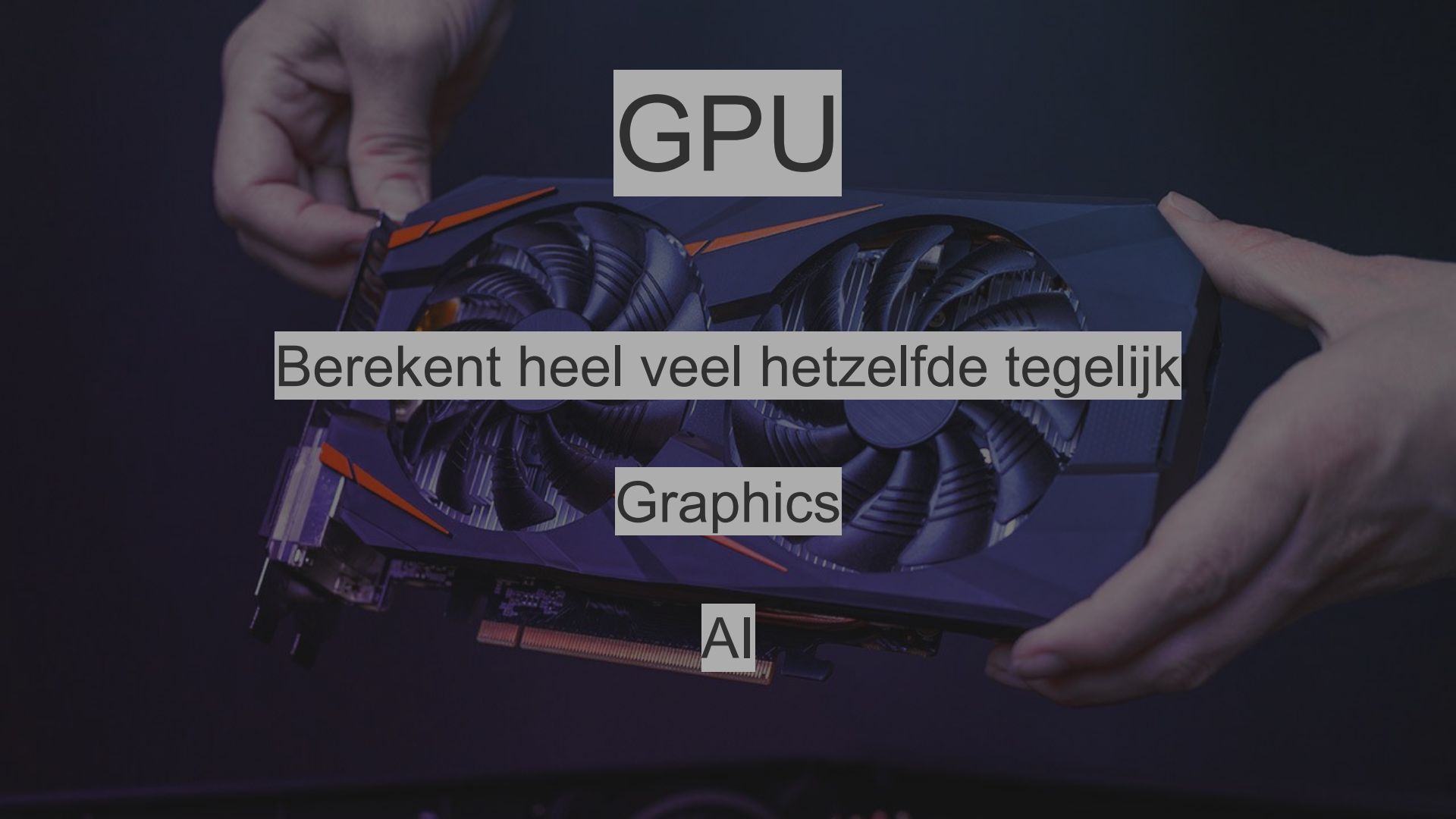
Kan alles (tijdelijk) opslaan

CPU + RAM

Kunnen alles uitvoeren





A person's hands are holding a blue and orange graphics card. The card has two large fans and orange accents. The background is dark blue.

GPU

Berekent heel veel hetzelfde tegelijk

Graphics

AI

Geheugen en Opslag

Geheugen
RAM
Tijdelijk

vs.
vs.
vs

opslag
opslaggeheugen
permanent

