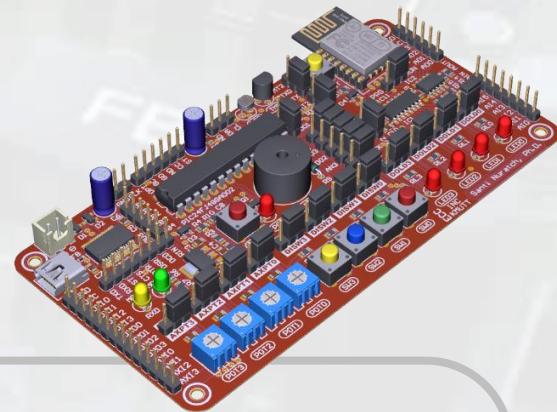


Week #01 - Introduction

INC 362:

Computer-based Control and Monitoring for
Modern Industrial Automation Systems



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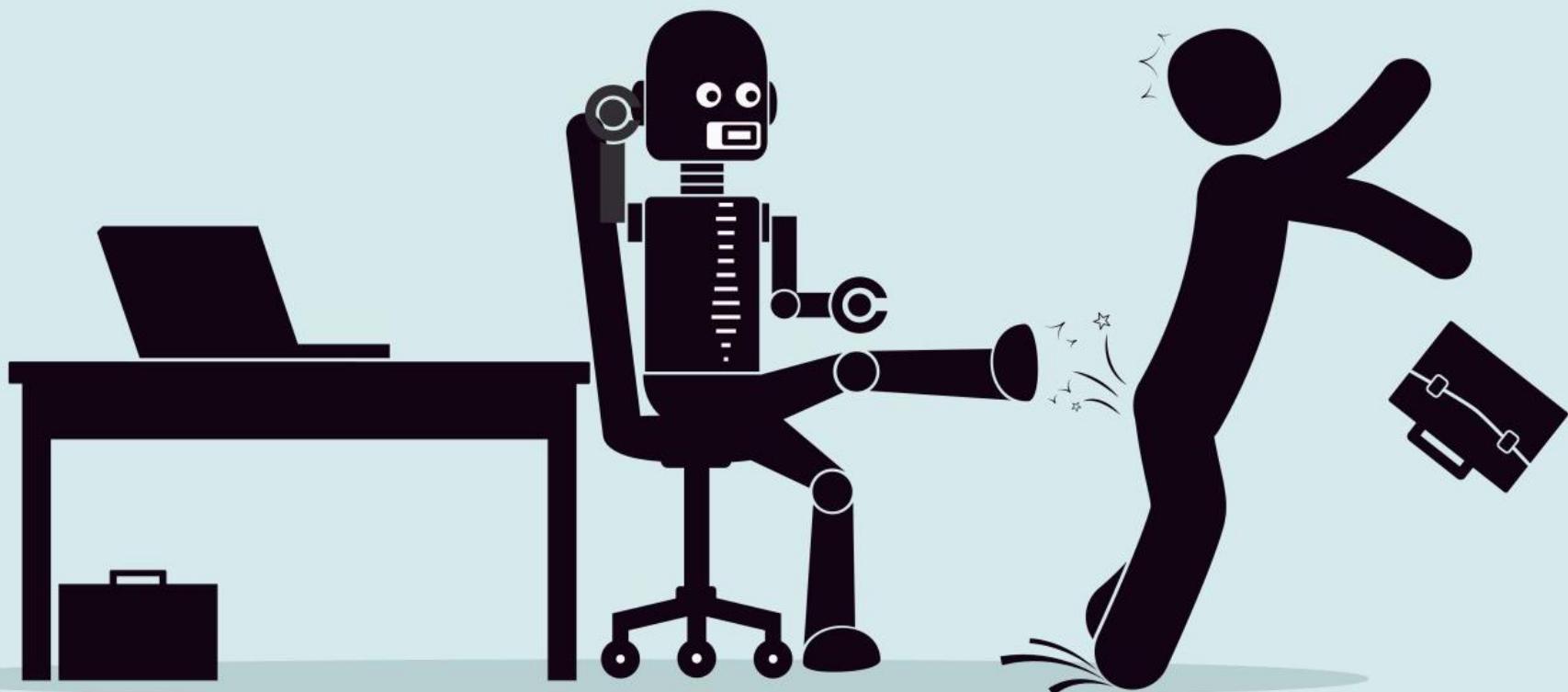
INC362 System Overview



Artificial
Intelligence

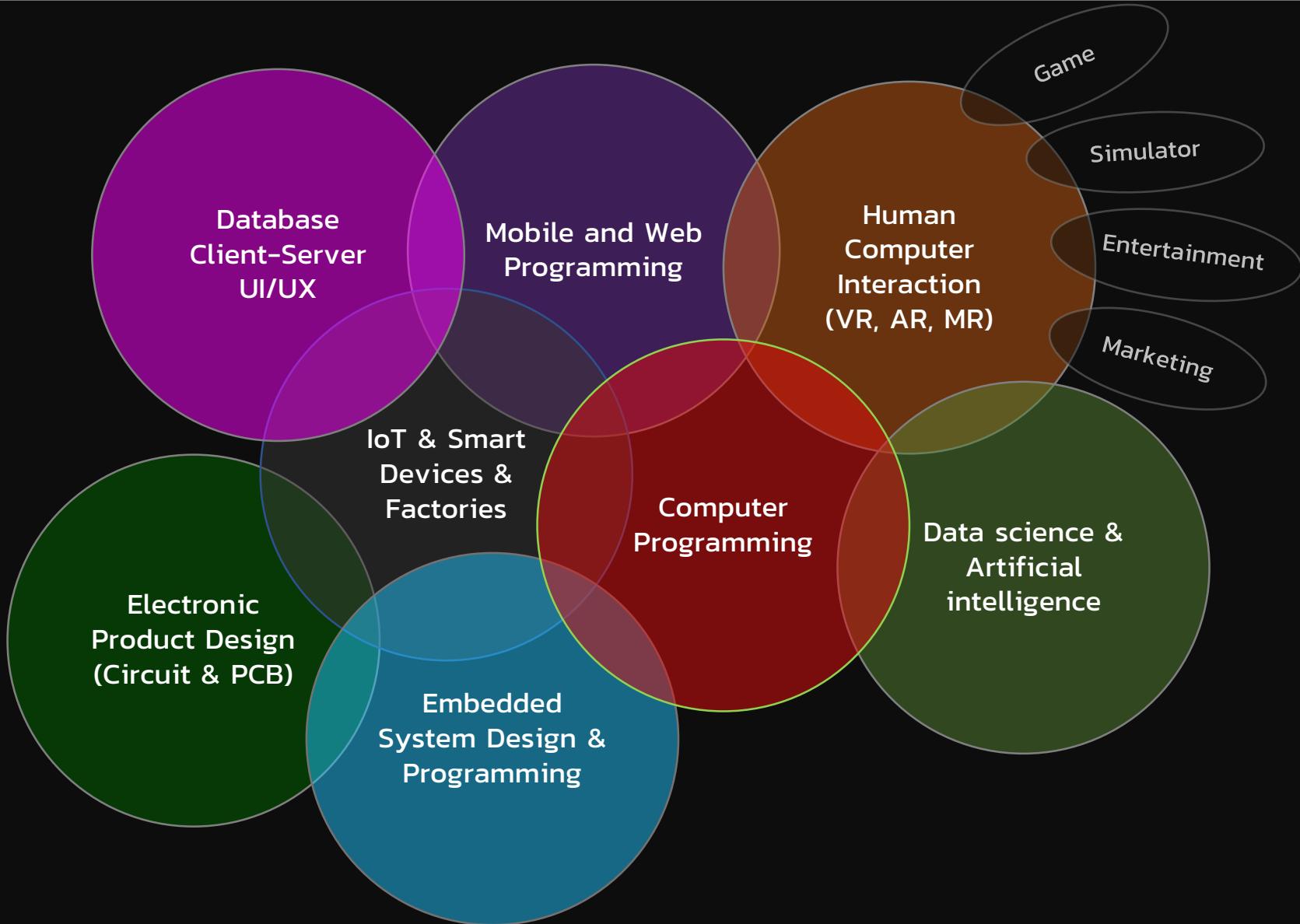


Human Intelligence



Required Skills for 2020+

Robustness and Security are taken into account



INC362 has three main modules

Embedded Programming



C Programming

Embedded Development

IoT Development

Control and Monitoring

Back-End (Logic&DB)



Server side JavaScript (Node.js)

Server side with Python

Algorithms and Data processing

Database management

Industrial Protocols

Front-End (UI&UX)



Hypertext Markup Language

Cascading Style Sheets

JavaScript (ES6) Programming

Web design and development

2D and 3D Graphics (Games)

Self-learning

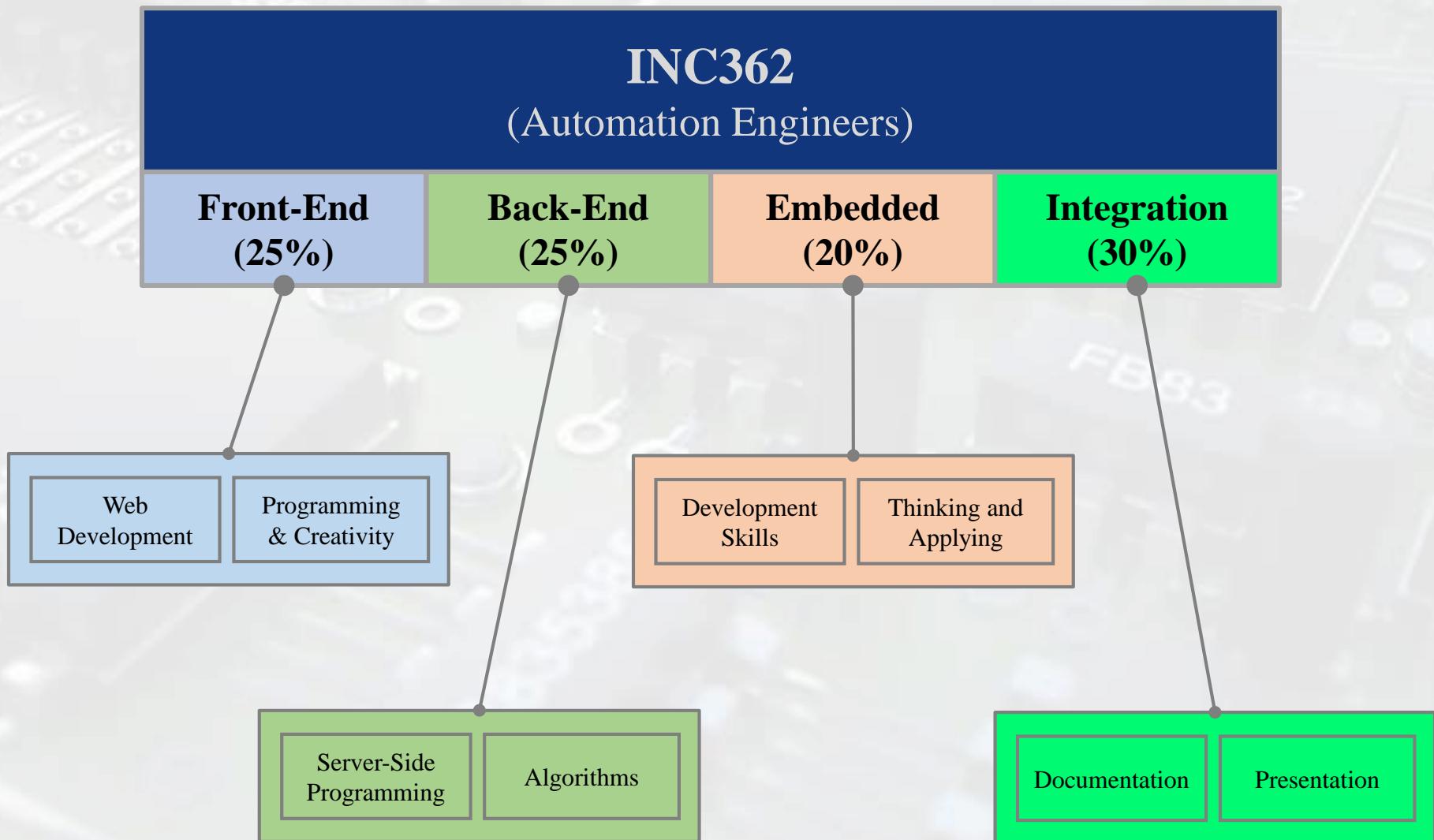
Assignments

Tests

Presentations

Teamwork

Four main important tasks, 100%



Evaluation (score & grade)



Grades	Scores
A	80 - 100
B+	75 - 79
B	70 - 74
C+	65 - 69
C	60 - 64
D+	55 - 59
D	50 - 54
F	0 - 49



Weekly Quiz + Exam (70%)

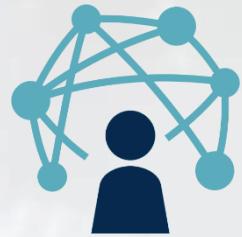
- Front-End 25%
- Back-End 25%
- Embedded 20%



System Integration (30%)

- Documentation 15%
- Presentation 15%

Once a Week Is Not Enough!!



Self-Study is better than Classroom Learning

Required Software Tools



Visual Studio Code

<https://code.visualstudio.com/>



MPLAB XC16 C Compiler

<https://www.microchip.com/mplab/compilers>



ecc-pic24-cli (Toolchain for PIC24 Development)

<https://github.com/drsanti/INC362-2020>



Google Chrome Browser

<https://www.google.com/chrome/>



Python (v3+)

<https://www.python.org/downloads/>



Node.js

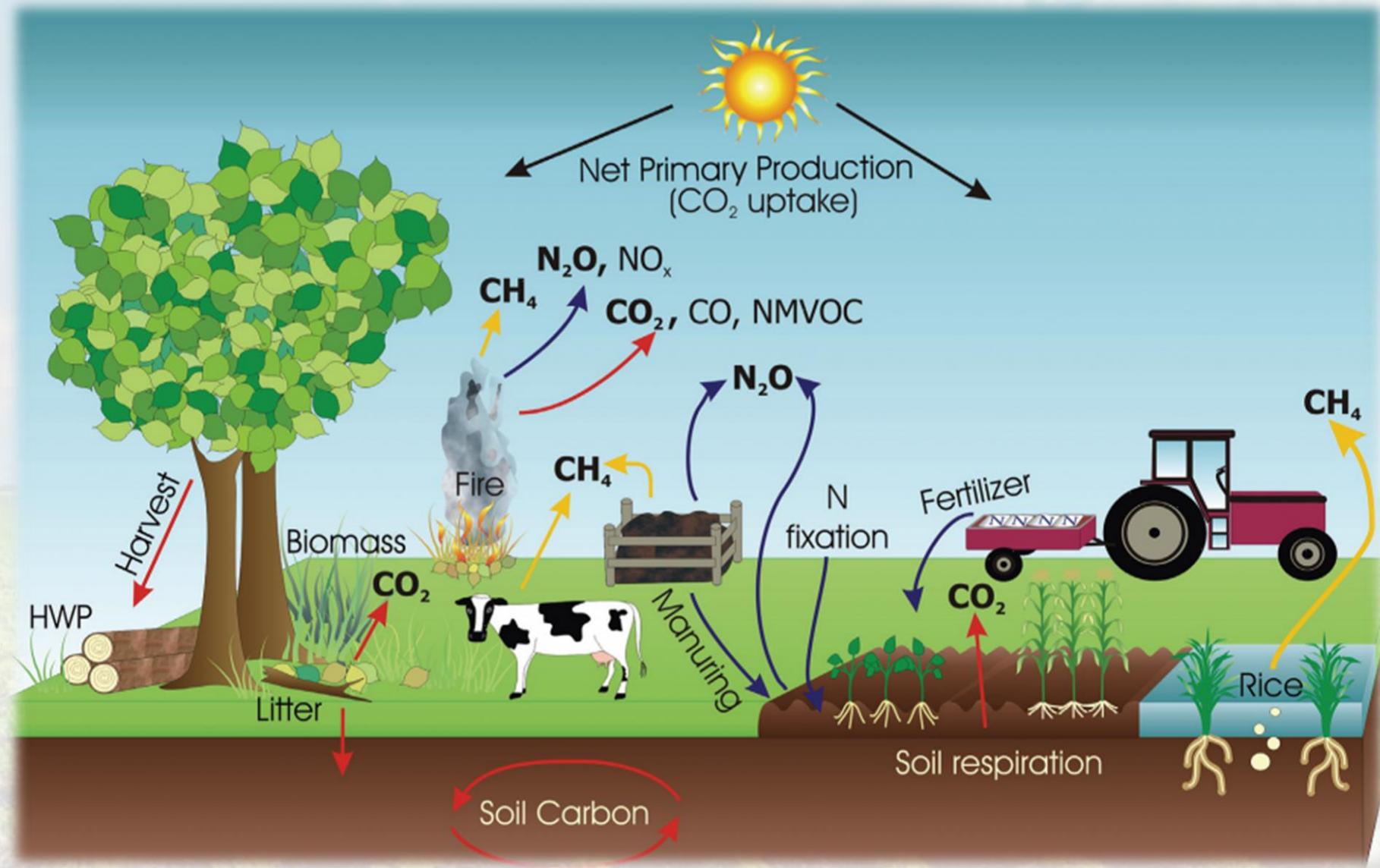
<https://nodejs.org/>



MongoDB

<https://www.mongodb.com/>

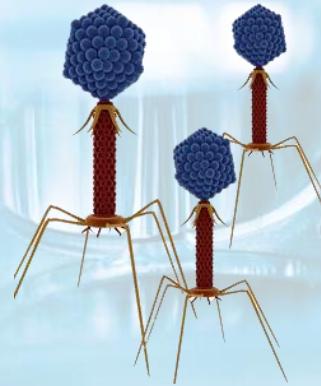
Farming Technologies



IoT for Living



Medical Technologies



Surgery Technologies



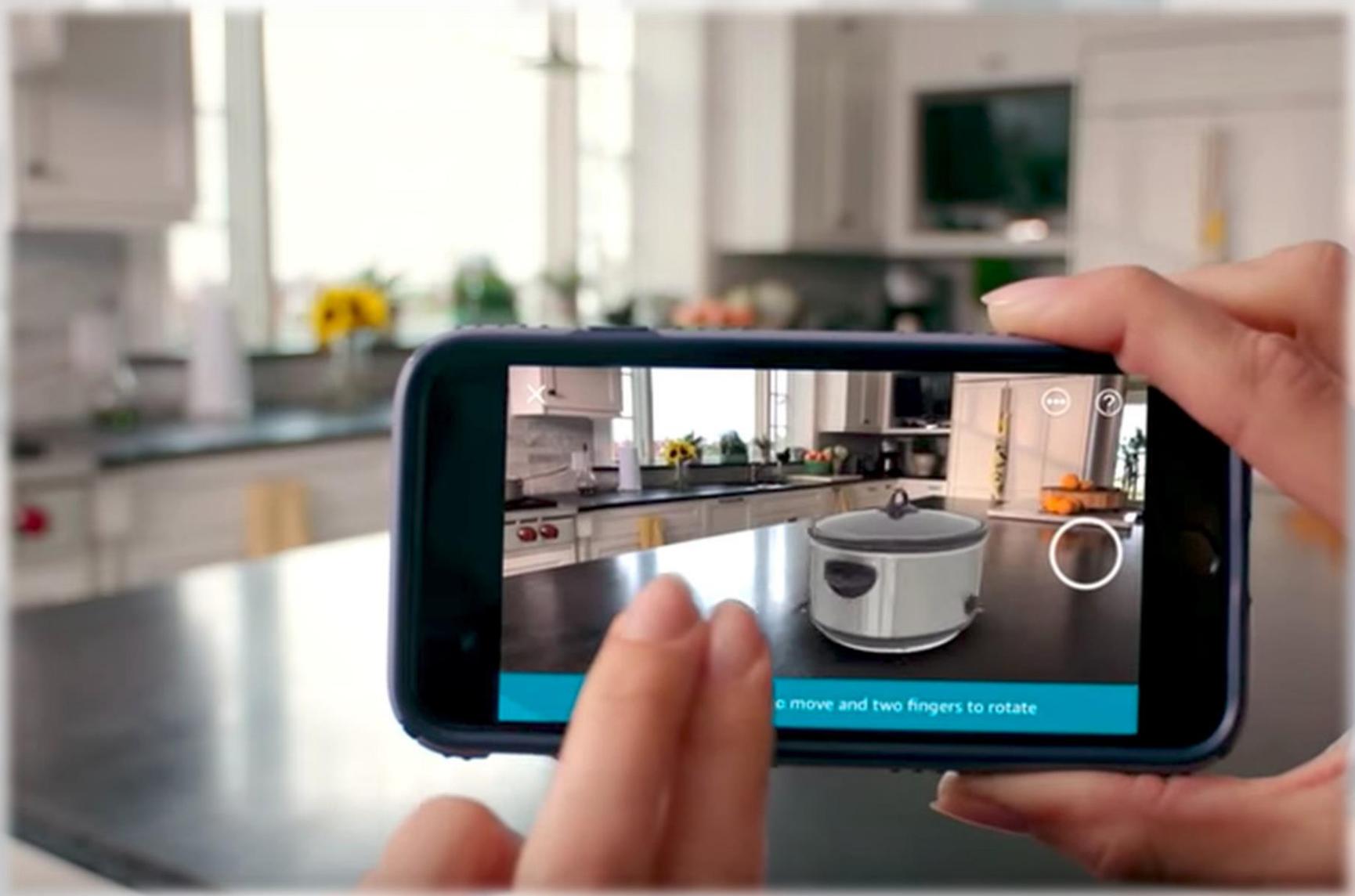
Industrial Automation Technologies



Modern Engineering



Marketing & Shopping Technologies



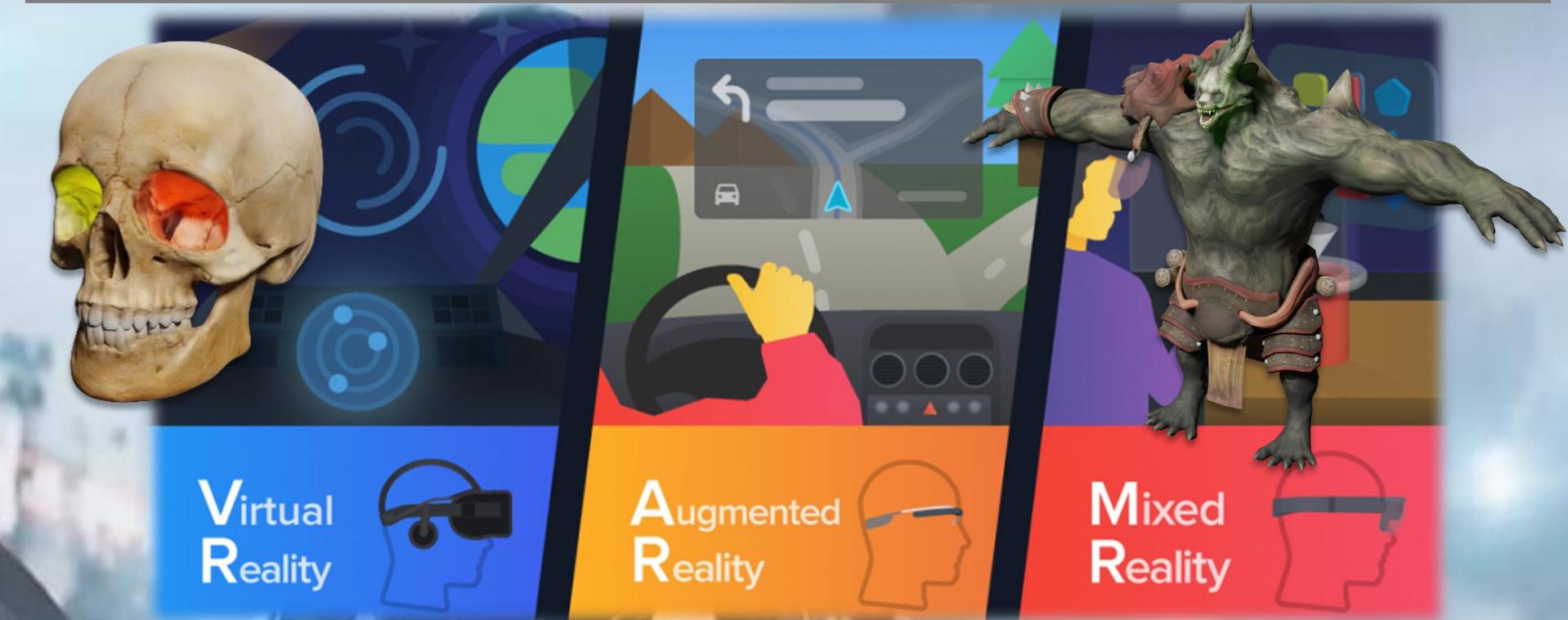
Traveling and Reading Technologies



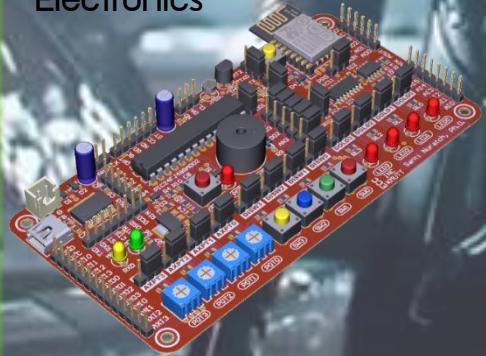
Game and Entertainment Technologies



Keep learning and make thing happen



Electronics



Microcontroller



User Interface



Programming



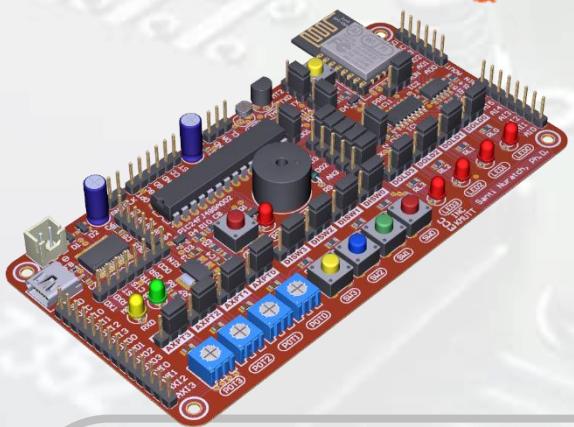


Back to the Real-World

Learn by Doing
Excel Thru Experimentation
Lead by Example
Acquire skills and get employed
Update skills and stay employed



THANK YOU!



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