Datalogic MECOP CpE Internship

EUGENE, OR
SPRING 2023 - FALL 2023

Astrid Delestine

DATALOGIC
EMPOWER YOUR VISION

Introduction

Oregon State University

Major
Electrical Computer Engineering

Minor
Computer Science

Focus
Micro-electronics/Robotics

Standing
Senior (150 credits)

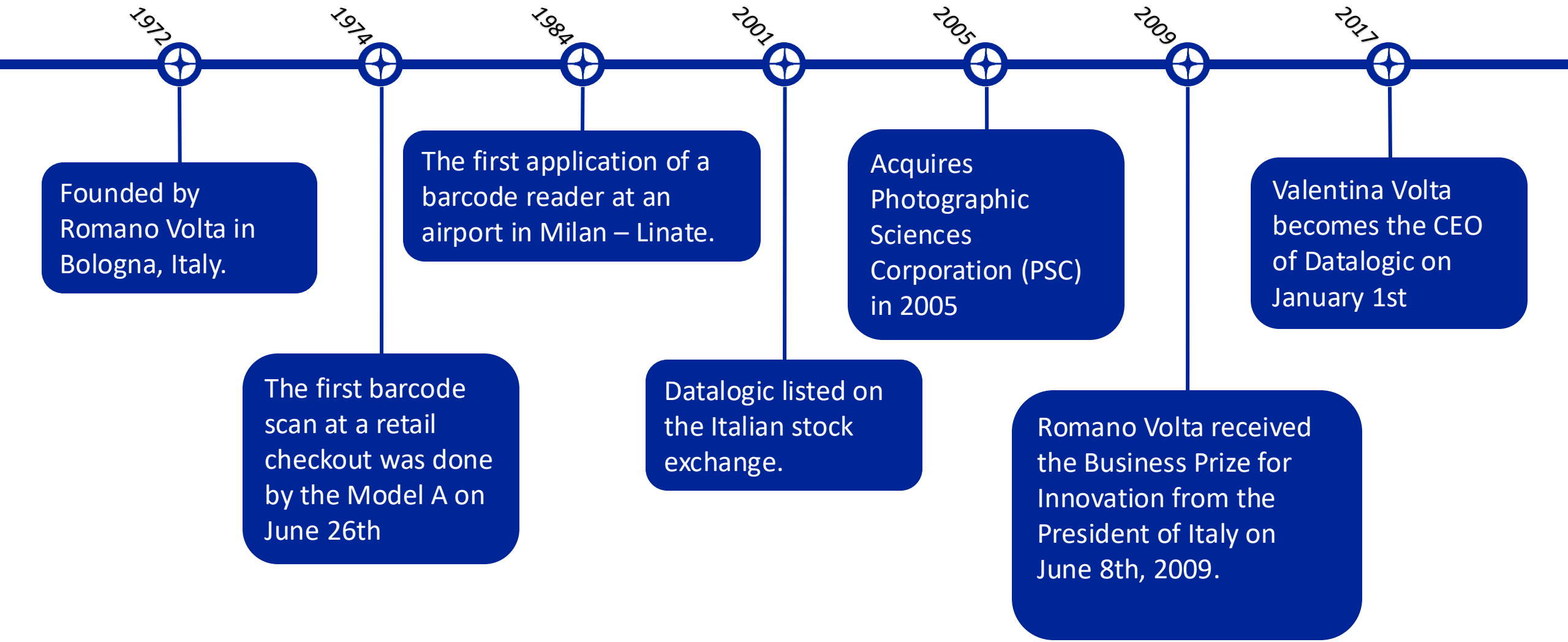
Datalogic

Job Title
R&D Intern

Primary Role
Algorithms and New Technologies Researcher

Experience
First Internship

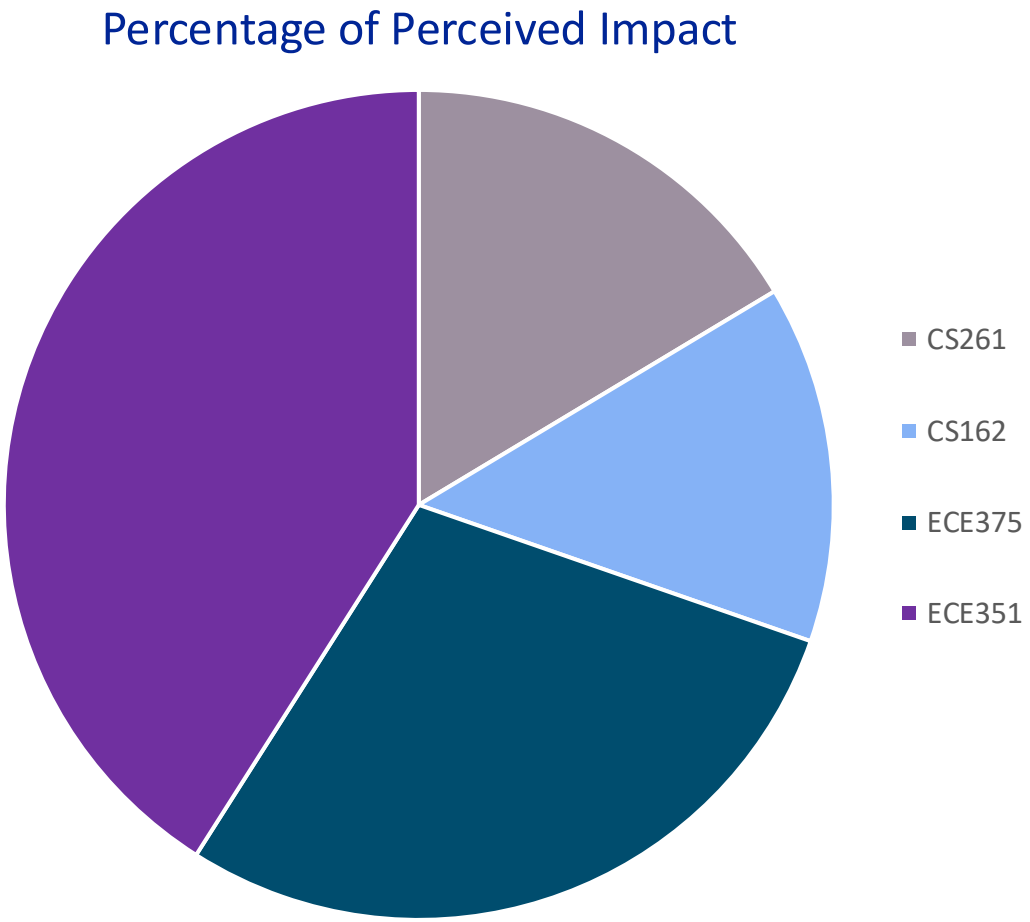
Company History



Working at Datalogic

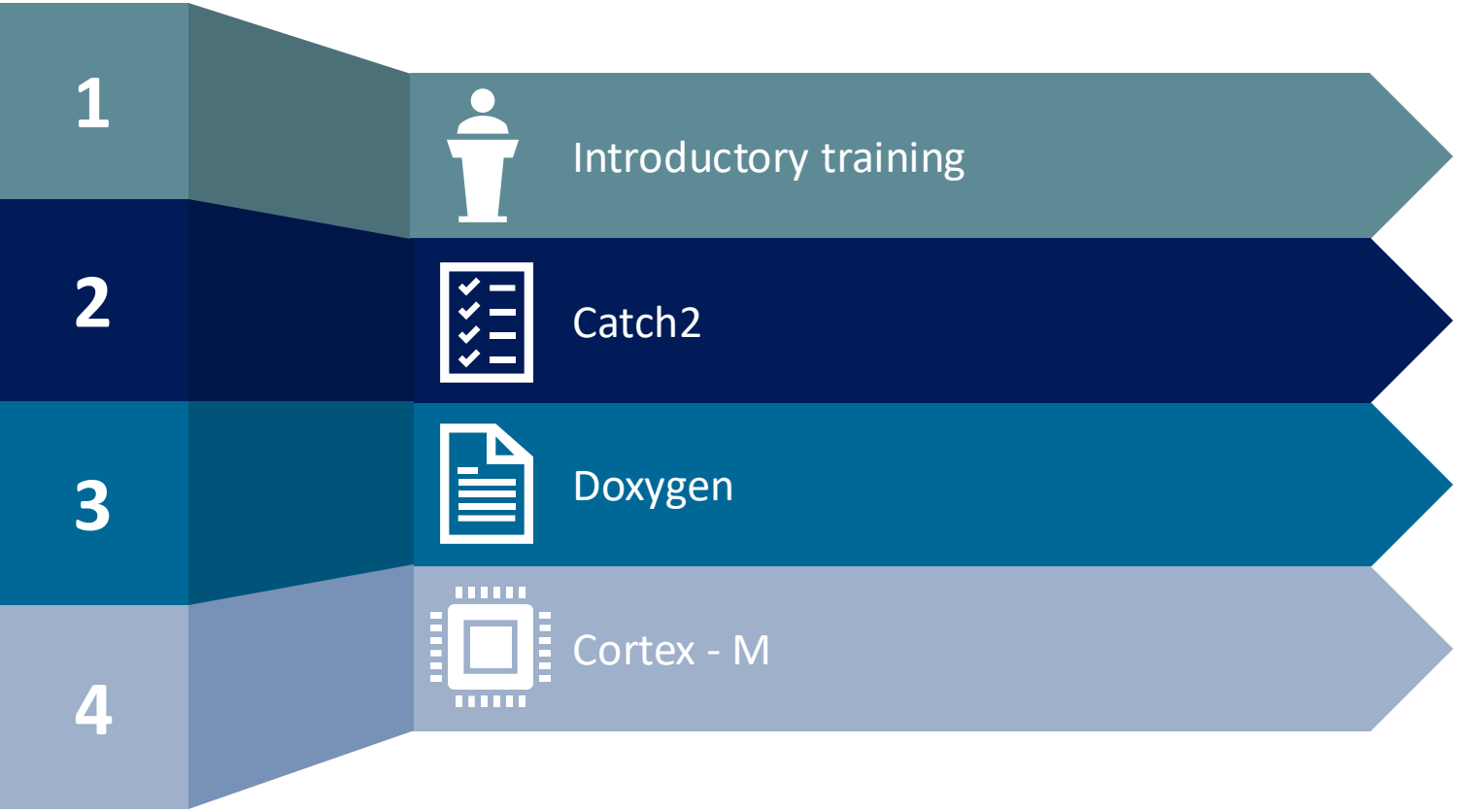
- Hours: 40/week
- Wages: Above min MECOP set, $$, $23/hr
- Benefits:
  - Holiday time off, Sick time, No Vacation time, 401k Match up to 6%
  - $1.50 lunch
- Overtime
  - Time and a half for time over 40hrs per week with confirmation from manager.
- Scheduling
  - Very flexible just make sure to communicate
- Hybrid Schedule

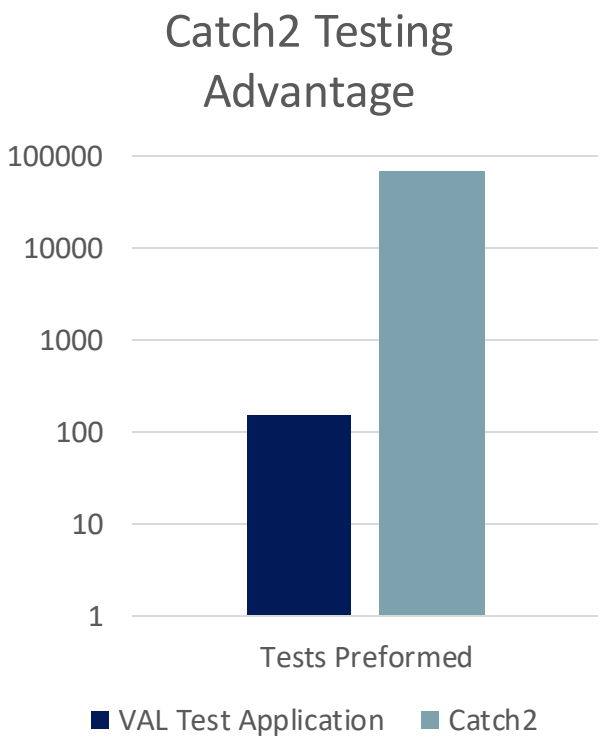
Key Courses



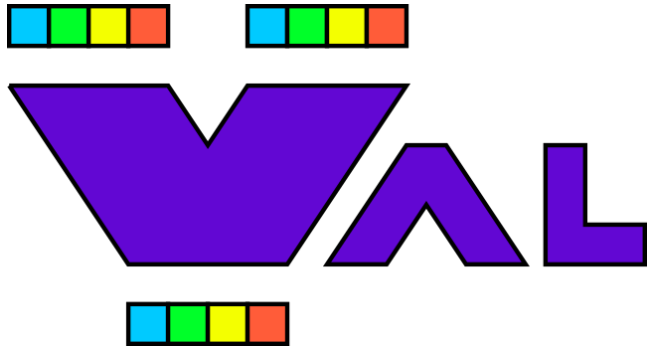
- Data Structures (CS261), Introduction to Computer Science II (CS 162)
  - Prolific use of C and C++
- Computer Organization and Assembly Language Programming (ECE375)
  - Due to assembly use and register knowledge
- Signals and Systems I (ECE351)
  - Due to the nature of how image processing works

Projects



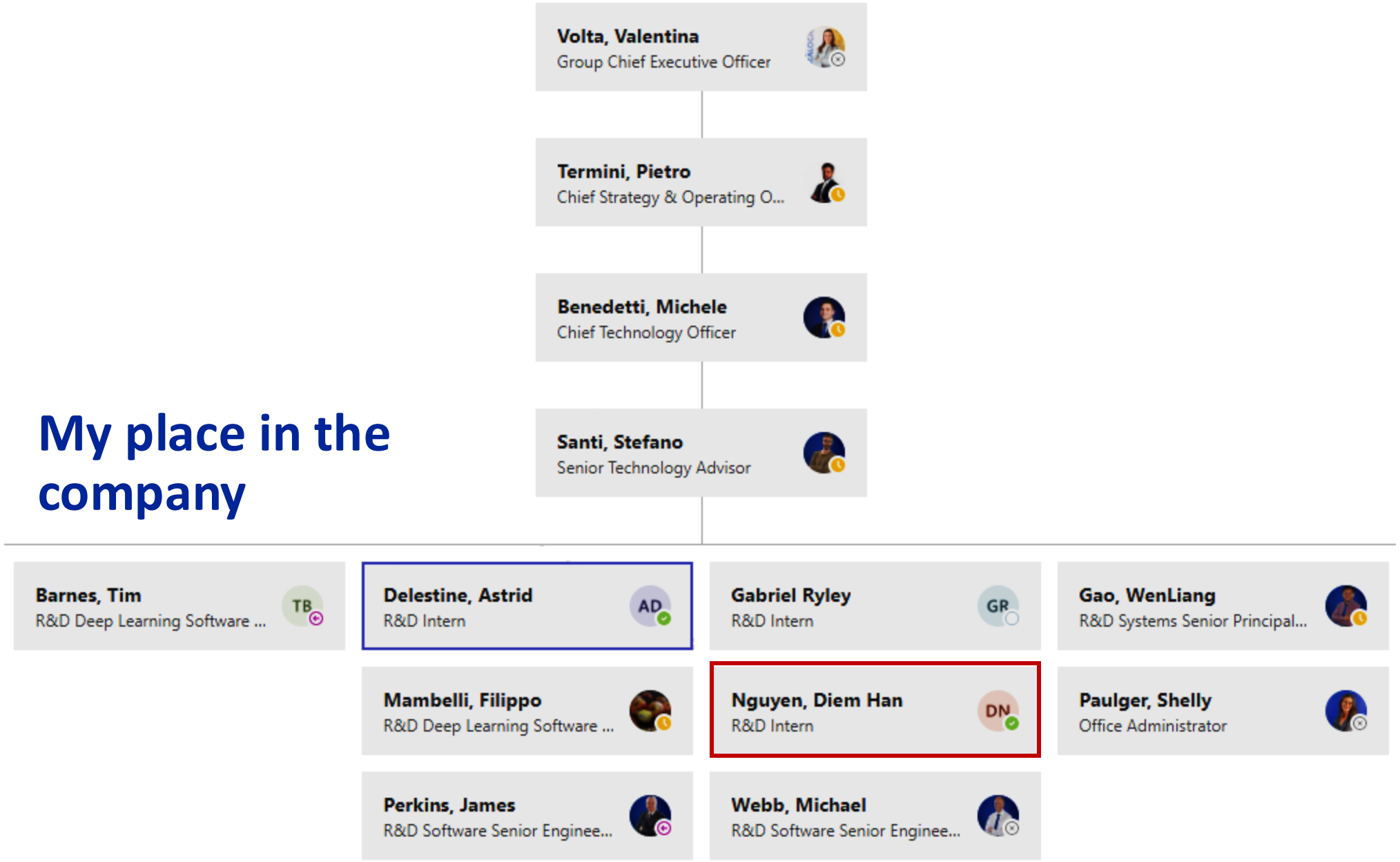


Contributions to VAL



- Documentation
  - Setup VAL for WSL2
  - How to use GDB for Visual Studio Code
  - How to use Scripts for Visual Studio Code
  - Setup for Cortex M on Windows Via Virtual Box
  - Setup for Cortex M on Windows (Native)
- Catch2 Tags
  - Proprietary Feature 1-10
  - Proprietary Memory Checker 1-10
  - Proprietary Benchmark 1-10
  - Fast
  - Slow
- Minor fixes to Proprietary Features

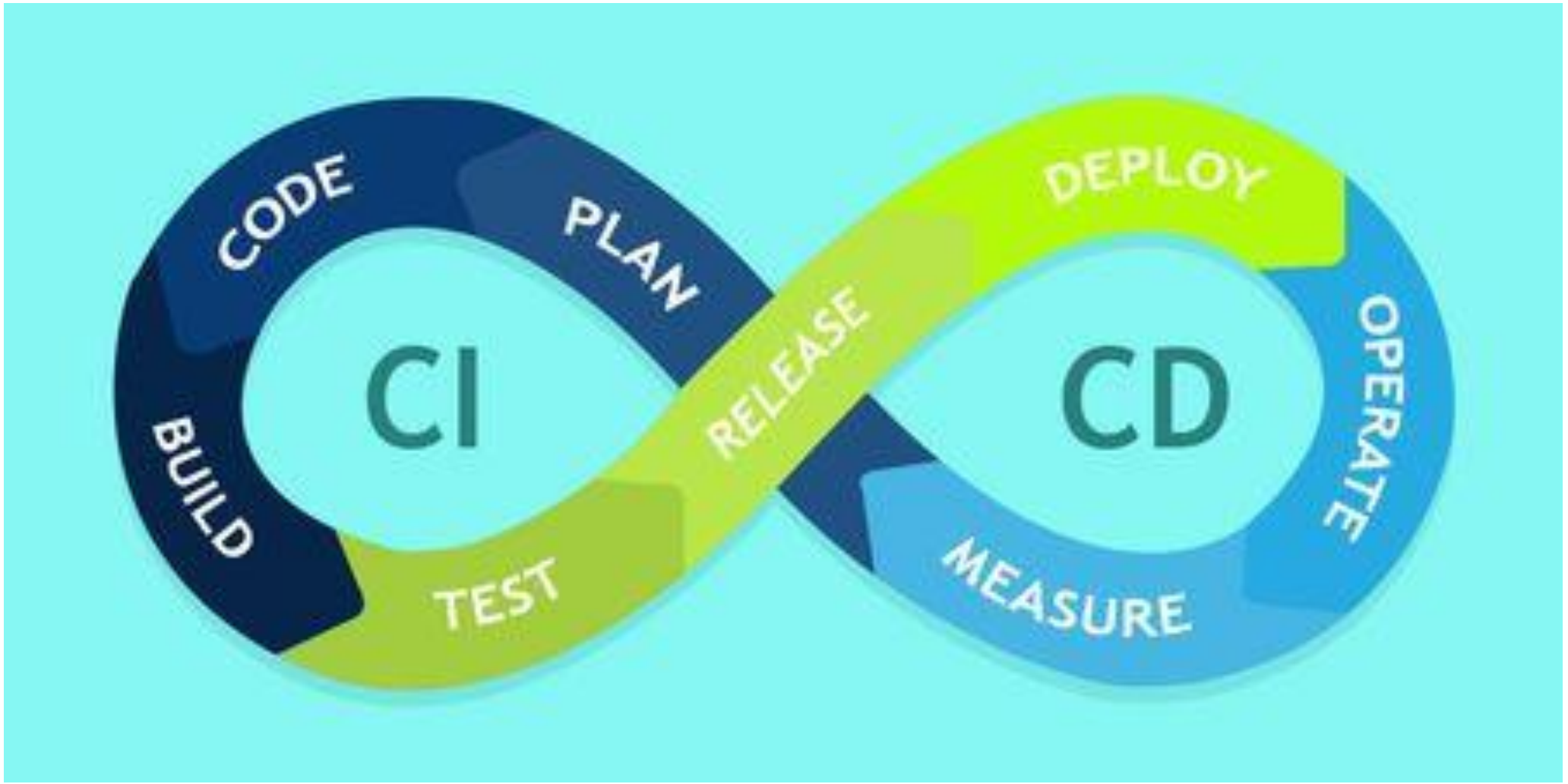
My place in the company



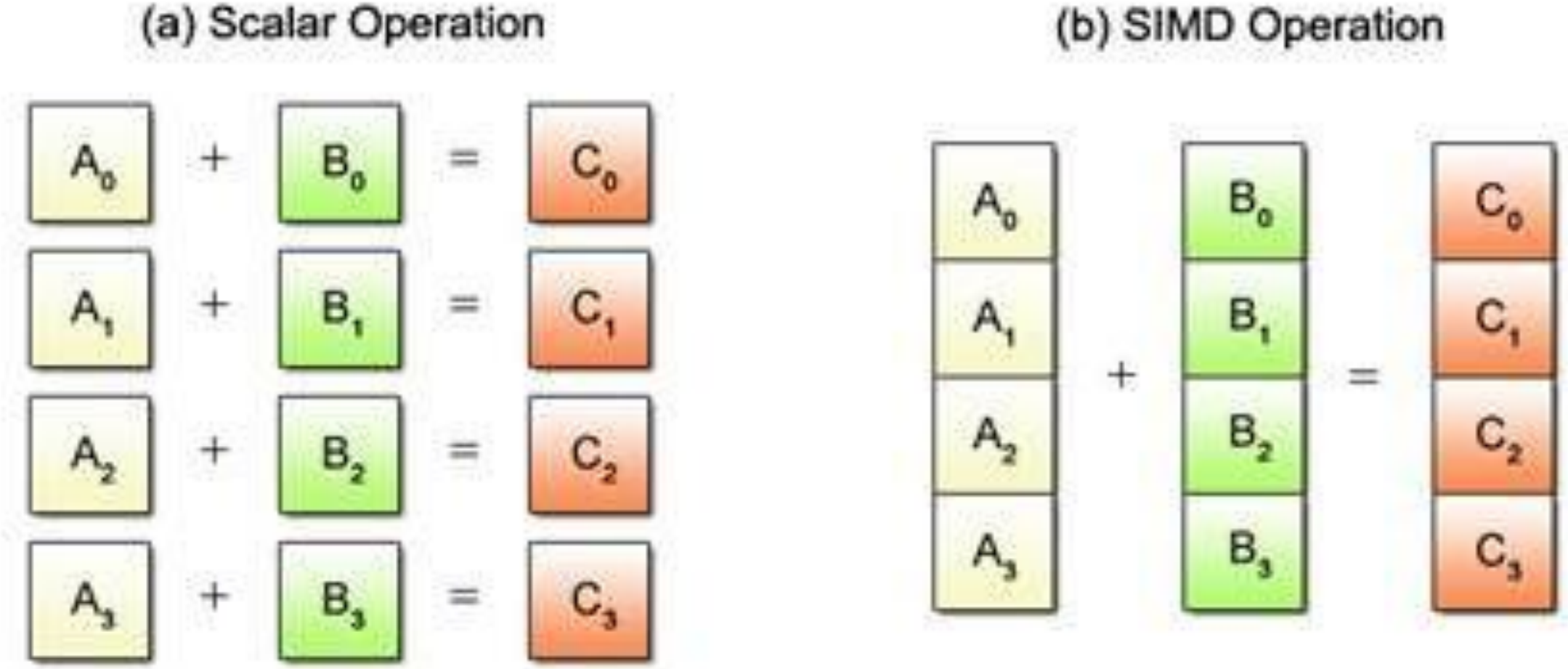
Key Knowledge Gained

Gitlab CI/CD, SIMD, Arm Intrinsics.
Doxygen, Cmake, Catch2.

CICD



SIMD Operations & Processor Intrinsics



Catch2 and Cmake

Doxygen

Main Page | Namespaces | Classes | Files | Search

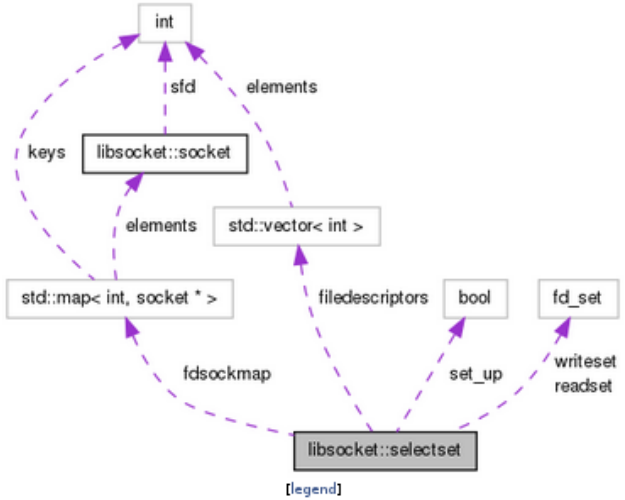
Class List | Class Index | Class Hierarchy | Class Members

libsocket | selectset

Public Member Functions | Private Attributes | List of all members

libsocket::selectset Class Reference

Collaboration diagram for libsocket::selectset:



Public Member Functions

void	**add_fd** (**socket** &sock, int method)
std::pair< std::vector< **socket** * > , std::vector< **socket** * > >	**wait** (long long microsecs=0)

Private Attributes

std::vector< int >	**filedescriptors**
std::map< int, **socket** * >	**fdsockmap**
bool	**set_up**
fd_set	**readset**
fd_set	**writeset**

The documentation for this class was generated from the following files:

General Impressions

THANK YOU

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