

CV Maker – group 2

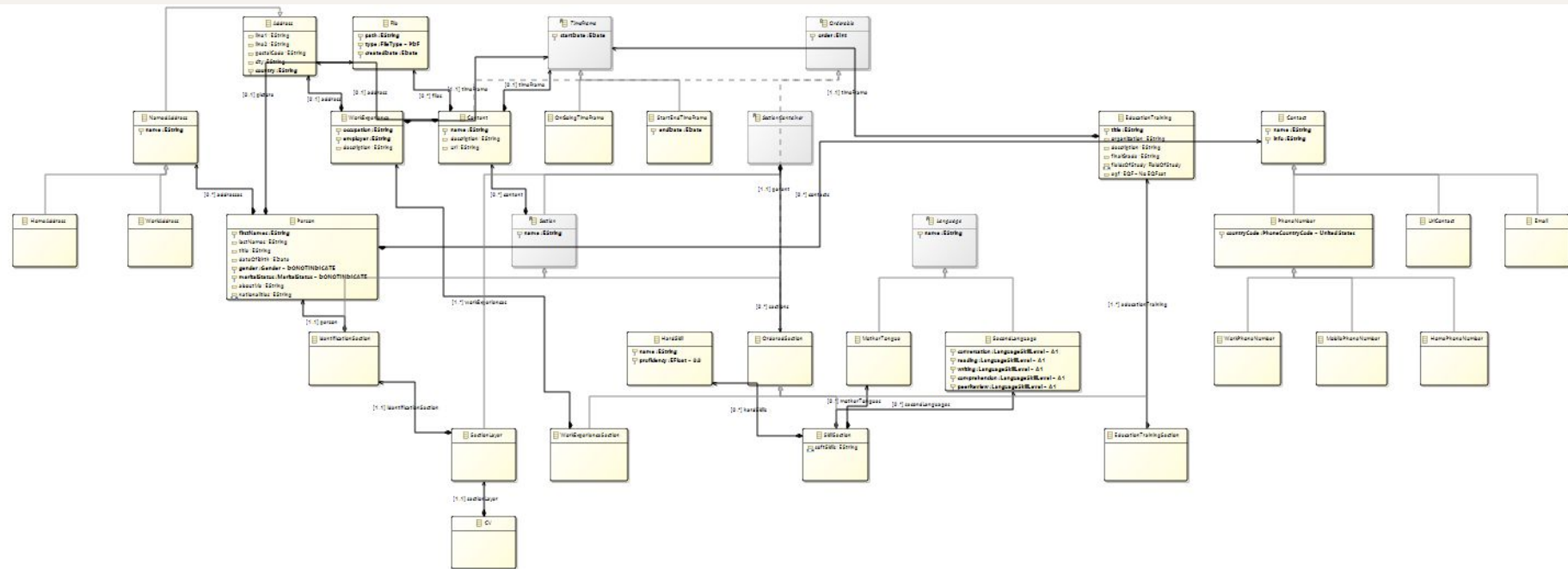
Markdown CV editor



Context

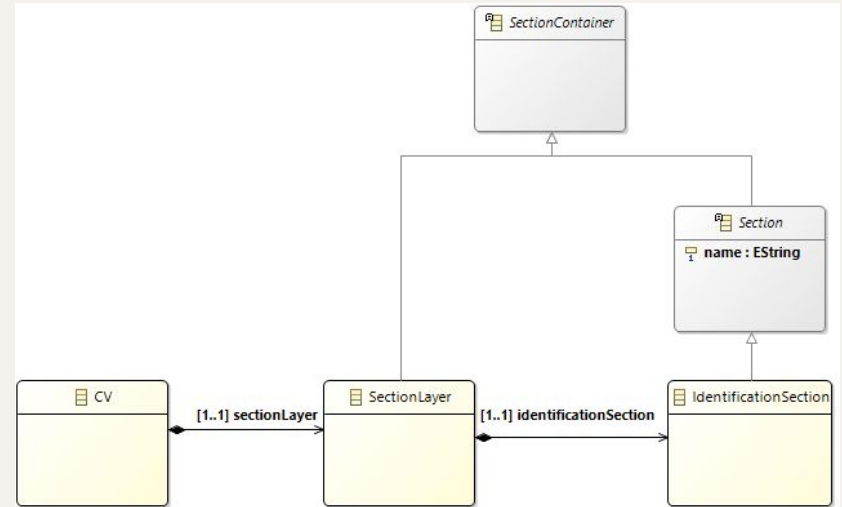
- Develop metamodel for CVs:
 - Support any type of CV (as many types as possible);
 - Contain standardized sections;
 - Provide as much freedom as possible to the user;
- Inspired by Europass and Ciência Vitae
- Develop an editor for CVs complying with the metamodel:
 - Should be as *visual* as possible;
 - Must support everything that is possible to do with the metamodel;
- Generate text documents from the models:
 - Use Markdown format;
 - Popular format on the web;
 - Multiple projects and tools to move from Markdown to other formats;

Metamodel overview



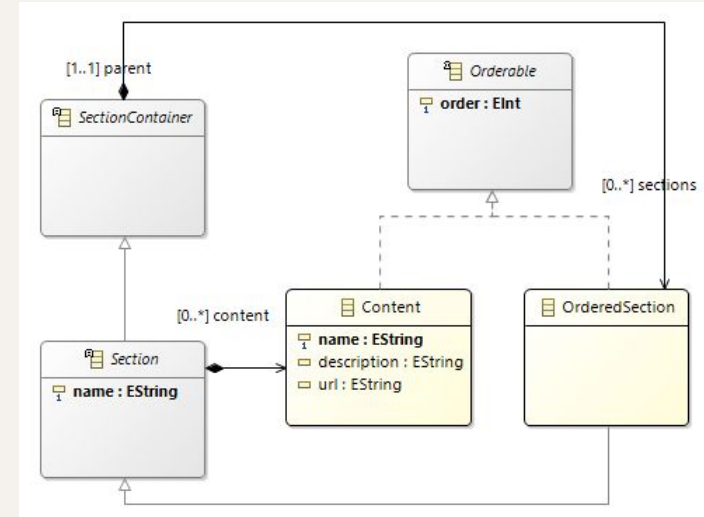
Metamodel concepts – Sections

- The CVs are *section-oriented*
- CV contains a *SectionLayer* which contains all sections.
- Only the *IdentificationSection* is mandatory.
- *Section* extends *SectionContainer*
 - A section can contain subsections



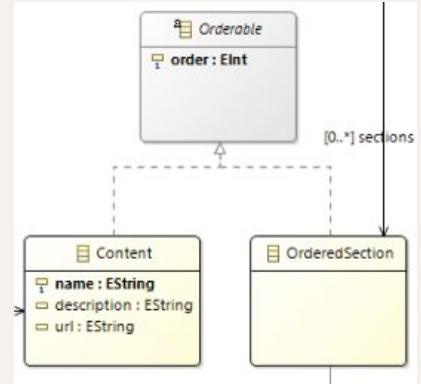
Metamodel concepts – Sections

- Sections contain any number of subsections.
 - Can recurse indefinitely.
- Subsections are sections and can contain sub-subsections.
- Sections can't contain themselves
 - Used OCL for constraint.
- Sections and their content can be ordered.
 - Extend the *Orderable* class.



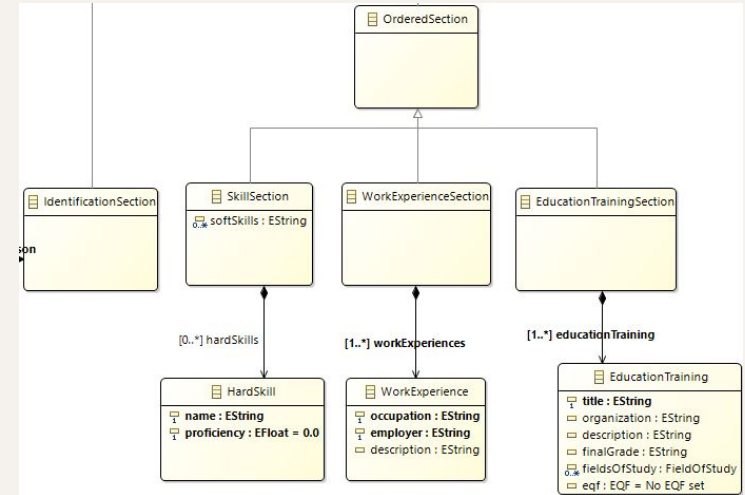
Metamodel concepts – Content ordering

- Both section and the content inside them can be ordered.
- They are ordered in relation to their siblings:
 - The children of a parent;
 - Single-level ordering;
- The Identification section is not orderable:
 - It is always the first section on the document.
- Predefined content is not *manually* orderable:
 - E.g., work experiences are always ordered from newest to oldest.
 - This is the standard and should make it easier for users when updating their CV.



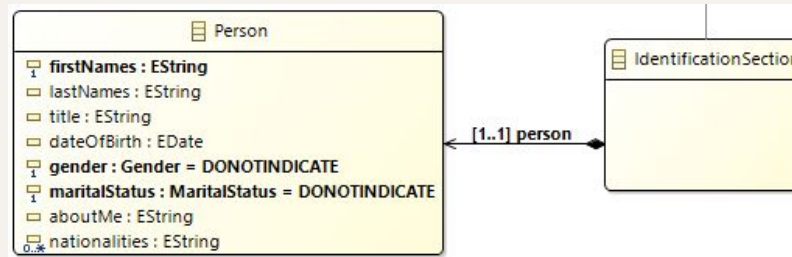
Metamodel concepts – Special Sections

- There are a number of *special sections*:
 - Automatically includes prettifying elements;
 - Includes common information;
 - Shouldn't add any new functionality.
 - Just makes common tasks easier.
 - More content can be added to instances of these sections;



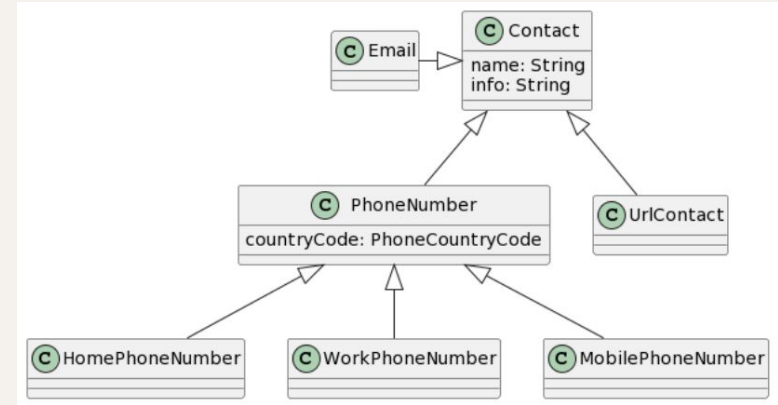
Metamodel concepts – Identification sections

- The Identification section is the *most special section*:
 - Contains the personal information of the user;
 - This is the only mandatory section;
 - Can only reside at the top level;
 - Standardizes the identification of the user;



















Metamodel concepts – Use of inheritance

- Make extensive use of inheritance:
 - Decoration reasons;
 - Add more details if the user wants to;
- Leads to some complex hierarchies in the metamodel
 - E.g., The contact information has a complex hierarchy that allows for dynamic icon changes in the editor.



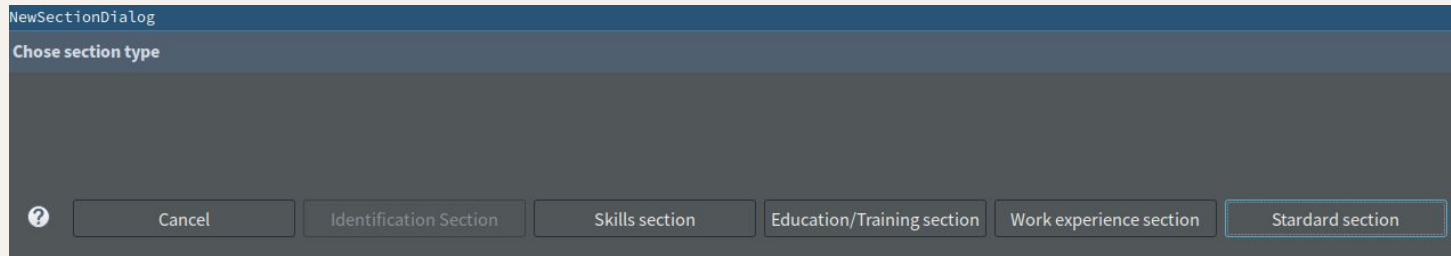
Visual representation

- Editor that emulates the look of the final CV.
 - Has custom icons for most content;
 - Heavy usage of *containers* (instead of *nodes*)
 - Provides the *square* look;
 - Properties can be edited when clicking on the object;
 - Clicking objects shows the available context tools
 - e.g., for creating child objects;
 - Tools that can't be used at a certain time are hidden;

CV	
Identification	
	Ana Barros
	Email: anaio Barros@outlook.pt
	phone: +(1) 91
	home phone: +(1) 91
	work phone: +(1) 91
	mobile phone: +(1) 91
	My blog: https://example.com
	Home Address: Portugal
	Named add: portugal
	work addr: portugal
Skills	
	Portuguese
	mother tongue
	:)
	mother tongue
	English
	Conversation: C1 Reading: C1 Writing: C1 Comprehension: C1 Peer review: C1
	French
	Conversation: B1 Reading: B1 Writing: B1 Comprehension: B1 Peer review: B1
	The hard skill
	Really big muscles (hard)

Visual representation – design choices

- There is a Java service for obtaining the list of sections.
- Containers cause problems when adding children:
 - E.g., subsections.
 - All sections need an empty/invisible node representing themselves;
- When creating an object with multiple possible types, the user is presented with a dialogue box:



Textual representation

- The textual representation follows the Markdown format:
 - Great for the web;
 - Easy to convert to other formats (e.g. PDF);
- Inspired by markdown-cv:
 - Automatically generate and host a website for the CV on GitHub
 - Easy to extend with new styles/variants;
- The sections are just sections in Markdown:
 - Subsections are one-level lower section inside their parent;
- Content is usually a series of bullet-points.

```
# Ana Barros
Software engineer

- Date of birth: Jun 28, 2000
- Gender: Female
- Nationality: Portuguese
- Contacts:
  - Email: [anaibarrosooutlook.pt](mailto:anaibarrosooutlook.pt)
  - phone: [(+1) 91](tel:+1-91)
  - home phone: [(+1) 91](tel:+1-91)
  - work phone: [(+1) 91](tel:+1-91)
  - mobile phone: [(+1) 91](tel:+1-91)
  - My blog: [https://example.com](https://example.com)
- Addresses:
  - Home Address
    - Linha 1
    - Linha 2
    - 4505-078, Irofa
    - Portugal
  - Named add
    - asd
    - portugal
  - work addr
    - portugal

## Skills

- Soft skills: Team worker, Friendly, Doesn't bite, Soft (squishy)
- Hard skills:
  - The hard skill: ***** (2.5)
  - Really big muscles (hard): ***** (5.0)

### Language skills

- Mother-tongues: Portuguese, :)
- Second language(s):

| | Conversation | Reading | Writing | Comprehension | Peer Review |
| -|-|-|-|-|
| **English** | C1 | C1 | C1 | C1 | C1 |
| **French** | B1 | B1 | B1 | B1 | B1 |
```

Textual representation – continued

- Contact information shows as links with the appropriate prefix, e.g.:
 - Phone number: tel:+351-919191919
 - Email: <mailto:example@example.com>
 - Personal pages: <https://example.com>
- Language skills are grouped in a table (see image below).
 - Contain the proficiency level for each component
- Images are embedded in the textual representation
- Other files are represented as links

	Conversation	Reading	Writing	Comprehension	Peer Review
English	C1	C1	C1	C1	C1
French	B1	B1	B1	B1	B1

Textual representation – Java services

- Java service for the *PhoneNumber* Enum:
 - The value of the Enum is the country-code;
 - Cannot access the value of the enum in Acceleo (only in Java);
- Java service to format dates into a more readable format:
 - yyyy-mm-dd
- Java service to show the *HardSkill* skill level as a sequence of 5-stars:
 - Similar to the 5-star rating system (popular in ecommerce);
 - Shows the proficiency level from 0.0 to 5.0;

Skills

- Soft skills: Team worker, Friendly, Doesn't bite, Soft (squishy)
- Hard skills:
 - The hard skill: ★★☆☆☆ (2.5)
 - Really big muscles (hard): ★★★★★ (5.0)

Language skills

- Mother-tongues: Portuguese, 😊
- Second language(s):

	Conversation	Reading	Writing	Comprehension	Peer Review
English	C1	C1	C1	C1	C1
French	B1	B1	B1	B1	B1

Education

- Master in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto Jan, 2021 - now
- Bachelor in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto Jan, 2021
 - Final grade: 16
 - Fields of study: Information and Communication Technologies, Engineering, manufacturing and construction

Examples

Textual and Graphical representations













Ricardo Fontão's CV - model instance









```
platform:/resource/cv.sample/FontaoCV.cv
└─ CV
  └─ Section Layer
    └─ Skill Section Skills
      └─ Mother Tongue Portuguese
      └─ Second Language English
    └─ Work Experience Section Work Experience
      └─ Ordered Section Projects
        └─ Work Experience Section Exchange
          └─ Content Fincancer
          └─ Work Experience Master's Scholarship
            └─ Start End Time Frame Mon Nov 01 00:00:00 WET 2021
        └─ Work Experience Section Projects
          └─ Work Experience Investigator
            └─ Start End Time Frame Thu Dec 01 00:00:00 WET 2022
        └─ Work Experience Investigator
          └─ Start End Time Frame Sat Jan 01 00:00:00 WET 2022
        └─ Work Experience Research Intern
          └─ Start End Time Frame Thu Jul 01 00:00:00 WET 2021
      └─ Ordered Section Productions
        └─ Content Journal Article
        └─ Content Conference Poster
    └─ Ordered Section Activities
      └─ Ordered Section Commission member
        └─ Content Member of the course monitoring of "Batchelor in Environment Engineering"
          └─ Start End Time Frame Tue Sep 01 00:00:00 WEST 2020
```

```
└─ Identification Section Identification
  └─ Ordered Section Author Identifiers
    └─ Content Ciência ID
    └─ Content ORCID ID
  └─ Ordered Section Fields of action
    └─ Content Engineering Sciences and Technologies
  └─ Education Training Section Education/Training
    └─ Education Training Master in Informatics and Computer Engineering
      └─ Start End Time Frame Fri Oct 01 00:00:00 WEST 2021
    └─ Education Training Bachelor in Informatics and Computer Engineering
      └─ Start End Time Frame Tue Sep 18 00:00:00 WEST 2018
    └─ Education Training Workshop on Energy System Flexibility
      └─ On Going Time Frame Wed Feb 02 00:00:00 WET 2022
  └─ Person Ricardo Jorge
    └─ File fontao_foto
    └─ Email Email (Professional)
    └─ Contact Citation Name
```


Ricardo Fontão's CV

Graphical Representation

CV	
Identification	
	Ricardo Jorge Cruz Fontão
	Profile picture: fontao_foto
	Email (Professional): ricardo.fontao@gmail.com
	Citation Name: Fontão, Ricardo
Identification: Author Identifiers	
	Ciência ID
	ORCID ID
Identification: Fields of action	
	Engineering Sciences and Technologies
Identification: Education/Training	
	Workshop on Energy System Flexibility
	Wed Feb 02 00:00:00 WEST 2022
	Master in Informatics and Computer Engineering
	Fri Oct 01 00:00:00 WEST 2021 Thu Jun 15 00:00:00 WEST 2023
	Bachelor in Informatics and Computer Engineering
	Tue Sep 18 00:00:00 WEST 2018 Tue Jun 15 00:00:00 WEST 2021
Work Experience	
	Investigator
	Sat Jan 01 00:00:00 WEST 2022 Fri Sep 30 00:00:00 WEST 2022
	Research Intern
	Thu Jul 01 00:00:00 WEST 2021 Sat Jul 31 00:00:00 WEST 2021

Work Experience: Projects	
Projects: Exchange	
	Master's Scholarship
	Mon Nov 01 00:00:00 WEST 2021 Mon Oct 31 00:00:00 WEST 2022
	Fincancer
Projects: Projects	
	Investigator
	Thu Dec 01 00:00:00 WEST 2022 Wed Feb 08 00:00:00 WEST 2023
Productions	
	Journal Article
	Conference Poster
Activities	
Activities: Commission member	
	Member of the course monitoring of "Batchelor in Environment Engineering"
	Tue Sep 01 00:00:00 WEST 2020 Sat Jul 31 00:00:00 WEST 2021
Skills	
	Portuguese
	mother tongue
	English
	Conversation: C1 Reading: C1 Writing: C1 Comprehension: C1 Peer review: C1

Ricardo Fontão's CV

Textual Representation

Ricardo Jorge Cruz Fontão

- Date of birth: set. 06, 2020
- Gender: Male
- Marital status: Single
- Contacts:
 - Email (Professional): ricardo.fontao@gmail.com
 - Citation Name: Fontão, Ricardo

Author Identifiers

- Ciência ID
 - C012-0B9A-5F26
- ORCID ID
 - 0000-0002-0433-7255

Fields of action

- Engineering Sciences and Technologies
 - Electrotechnical, Electronics and Informatics Engineering

Education/Training

- Workshop on Energy System Flexibility at Universidade de Coimbra Instituto de Engenharia de Sistemas e Computadores de Coimbra, Portugal **fev. , 2022 - now**
- Master in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto **out. , 2021 - jun. , 2023**
- Bachelor in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto **set. , 2018 - jun. , 2021**
 - Final grade: 16.58

Work Experience

- Investigator at Instituto de Engenharia de Sistemas e Computadores Tecnologia e Ciência, Portugal jan. , 2022 - set. , 2022
- Research Intern at Instituto de Engenharia de Sistemas e Computadores Tecnologia e Ciência, Portugal jul. , 2021 - jul. , 2021

Projects

Exchange

- Master's Scholarship at Fundação para a Ciência e a Tecnologia, Portugal nov. , 2021 - out. , 2022
 - Desenvolvimento de células solares redox de escoamento. SFRH/BM/35444/2021
- Fincancer

- Fundação para a Ciência e a Tecnologia, Portugal.

Projects

- Investigator at Universidade do Porto Faculdade de Engenharia, Portugal dez. , 2022 - fev. , 2023
 - Inverted perovskite solar cells: a disruptive architecture enabling high-efficiency, high-stability and high cost benefit

Productions

- [Journal Article](#)
 - Bernardo, Gabriel; Araújo, Tiago; da Silva Lopes, Telmo; Sousa, José; Mendes, Adélio; Fontão, Ricardo. "Recent advances in membrane technologies for hydrogen purification", International Journal of Hydrogen Energy, 2020
- Conference Poster
 - Fontão, Ricardo; Madureira, Rúben; Neto, Francisco; Martins, Jorge; Emami, Seyedali; Mendes, Adélio; Mendes, Joaquim. "Numerical Simulation Of LaserAssisted Sealing Of Perovskite Solar Cells". Trabalho apresentado em 1st International Solar Power Technologies Conference - SPTech, 2021.

Activities

Commission member

- Member of the course monitoring of "Batchelor in Environment Engineering set. , 2020 - jul. , 2021
 - Universidade do Porto Faculdade de Engenharia, Portugal

Skills

Language skills

- Mother-tongue: Portuguese
- Second language(s):

	Conversation	Reading	Writing	Comprehension	Peer Review
English	C1	C1	C1	C1	C1

















Ana Barros' CV












Model instance



platform:/resource/cv.sample/ExampleCv.cv	
CV	
Section Layer	
Education Training Section Education	
Education Training Master in Informatics and Computer Engineering	
On Going Time Frame Fri Jan 01 00:00:00 WET 2021	
Education Training Bachelor in Informatics and Computer Engineering	
Start End Time Frame Mon Jan 01 00:00:00 WET 2018	
Work Experience Section Work Experience	
Work Experience Application Developer	
On Going Time Frame Tue Jan 01 00:00:00 WET 2019	
Address	
Work Experience University Teaching Assistant	
Start End Time Frame Wed Sep 01 00:00:00 WEST 2021	
Address	
Skill Section Skills	
Hard Skill The hard skill	
Hard Skill Really big muscles (hard)	
Mother Tongue Portuguese	
Mother Tongue :)	
Second Language English	
Second Language French	
Ordered Section Networks and Memberships	
Ordered Section A subsection	
Content Here for the sake of it	
Ordered Section Another section	
Content The content	
Content Member of the Student Council for NCGM	
Start End Time Frame Mon Jan 01 00:00:00 WET 2018	
Ordered Section Projects	
Content Outdo	
On Going Time Frame Thu Jan 01 00:00:00 WET 1970	
Content The Landing Gear System	
Start End Time Frame Tue Feb 01 23:00:00 WET 2022	
Content Segmentation Fault	
Start End Time Frame Mon Feb 01 00:00:00 WET 2021	
Content Greener	
Start End Time Frame Thu Oct 01 00:00:00 WEST 2020	
Ordered Section Recommendations	
Content Cláudia Amaral - Manager at Outdo	
Address	
Start End Time Frame Wed Jan 01 00:00:00 WET 2020	
Identification Section Identification	
Person Ana	
Email Email	
Phone Number phone	
Home Phone Number home phone	
Work Phone Number work phone	
Mobile Phone Number mobile phone	
Url Contact My blog	
Home Address Home Address	
Named Address Named add	
Work Address work addr	

Ana Barros' CV

Graphical representation

CV	
Identification	
	Ana Barros
	Email: anaibarrosooutlook.pt
	phone: +(1) 91
	home phone: +(1) 91
	work phone: +(1) 91
	mobile phone: +(1) 91
	My blog: https://example.com
	Home Address: Portugal
	Named add: portugal
	work addr: portugal
Skills	
	Portuguese
mother tongue	
	:)
mother tongue	
	English
Conversation: C1	
Reading: C1	
Writing: C1	
Comprehension: C1	
Peer review: C1	
	French
Conversation: B1	
Reading: B1	
Writing: B1	
Comprehension: B1	
Peer review: B1	
	The hard skill
	Really big muscles (hard)

Education	
	Master in Informatics and Computer Engineering
Fri Jan 01 00:00:00 WET 2021	
	Bachelor in Informatics and Computer Engineering
Mon Jan 01 00:00:00 WET 2018	
Fri Jan 01 00:00:00 WET 2021	
Work Experience	
	University Teaching Assistant
Wed Sep 01 00:00:00 WEST 2021	
Wed Dec 01 00:00:00 WET 2021	
Portugal	
	Application Developer
Tue Jan 01 00:00:00 WET 2019	
Portugal	
Networks and Memberships	
	Member of the Student Council for NCGM
Mon Jan 01 00:00:00 WET 2018	
Fri Jan 01 00:00:00 WET 2021	
Networks and Memberships: Another section	
	The content
Networks and Memberships: A subsection	
	Here for the sake of it
Projects	
	Outdo
Thu Jan 01 00:00:00 WET 1970	
	The Landing Gear System
Tue Feb 01 23:00:00 WET 2022	
Wed Jun 01 01:00:00 WEST 2022	
	Segmentation Fault
Mon Feb 01 00:00:00 WET 2021	
Tue Jun 01 00:00:00 WEST 2021	
	Greener
Thu Oct 01 00:00:00 WEST 2020	

	Greener
Thu Oct 01 00:00:00 WEST 2020	
Fri Jan 01 00:00:00 WET 2021	
Recommendations	
	Cláudia Amaral - Manager at Outdo
Wed Jan 01 00:00:00 WET 2020	
Fri Jan 01 00:00:00 WET 2021	
Portugal	

Ana Barros' CV

Textual representation

Ana Barros

Software engineer

- Date of birth: Jun 28, 2000
- Gender: Female
- Nationality: Portuguese
- Contacts:
 - Email: anaioabarros@outlook.pt
 - phone: [\(+1\) 91](tel:+191)
 - home phone: [\(+1\) 91](tel:+191)
 - work phone: [\(+1\) 91](tel:+191)
 - mobile phone: [\(+1\) 91](tel:+191)
 - My blog: <https://example.com>
- Addresses:
 - Home Address
 - Linha 1
 - Linha 2
 - 4505-078, Trofa
 - Portugal
 - Named add
 - asd
 - portugal
 - work addr
 - portugal

Skills

- Soft skills: Team worker, Friendly, Doesn't bite, Soft (squishy)
- Hard skills:
 - The hard skill: ★★★★★ (2.5)
 - Really big muscles (hard): ★★★★★ (5.0)

Language skills

- Mother-tongues: Portuguese, :)
- Second language(s):

	Conversation	Reading	Writing	Comprehension	Peer Review
English	C1	C1	C1	C1	C1
French	B1	B1	B1	B1	B1

Education

- Master in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto Jan., 2021 - now
- Bachelor in Informatics and Computer Engineering at Faculdade de Engenharia da Universidade do Porto Jan., 2018 - Jan., 2021
 - Final grade: 16
 - Fields of study: Information and Communication Technologies, Engineering, manufacturing and construction

Work Experience

- University Teaching Assistant at FEUP Sep., 2021 - Dec., 2021
 - Address:
 - Porto
 - Portugal
 - I was invited by my teachers to assist with "Projeto FEUP". During this time, I was responsible for helping 1st year students transitioning from highschool to university. I had to guide them during activities and assist them during class.
- Application Developer at OUTDO Jan., 2019 - now
 - Address:
 - Portugal
 - Participated in the development of the prototype website and mobile application for Outdo.

Networks and Memberships

- [Member of the Student Council for NCGM](#) Jan, 2018 - Jan, 2021
 - Faculdade de Engenharia da Universidade do Porto. I was part of the student council for NCGM. As an active member, I took part in some projects, organized events, as well as other activities.

Another section

- The content

A subsection

- Here for the sake of it

Projects

- [Outdo](#) Jan, 1970 - now
 - Participated in the creation of the Outdo startup. My main role is the development and maintenance of both the website and mobile application prototypes.
- [The Landing Gear System](#) Feb, 2022 - Jun, 2022
 - The goal of this project was to explore the validation and verification of a realistic safety-critical software system during the design and implementation stages of

development. The project consisted of two parts: one part was the design in Alloy and the other one was the implementation in Dafny. The system under analysis (The Landing Gear System 2022) was part of a series of case studies set provided by the ABZ Conf.

- [Segmentation Fault](#) Feb, 2021 - Jun, 2021
 - An online QA web application resembling StackOverflow. This project was developed for the learning experience of using Bootstrap, Docker, Laravel, and PostgreSQL.
- [Greener](#) Oct, 2020 - Jan, 2021
 - Greener is a capturing game for 2 players, where both must capture the same colour. This project involved implementing Greener using Sictus Prolog (logic programming).

Recommendations

- [Cláudia Amaral - Manager at Outdo](#) Jan, 2020 - Jan, 2021
 - Address:
 - Portugal
 - Participated in the development of the prototype for Outdo, where I got a recommendation letter.

Thank you for listening

A presentation by:

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