Python for Language Processing

Overview & Introduction

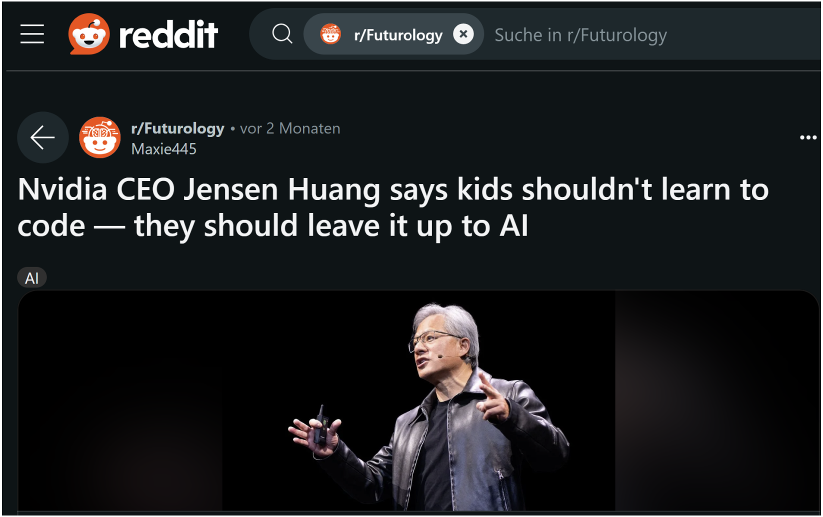
Dr. Jakob Prange

Fakultät für Angewandte Informatik - Universität Augsburg

CL Fall School 24

Credit: This course is based on material developed by
Annemarie Friedrich, Stefan Thater, Michaela Regneri, and Marc Schulder at Saarland University

Why learn to code?



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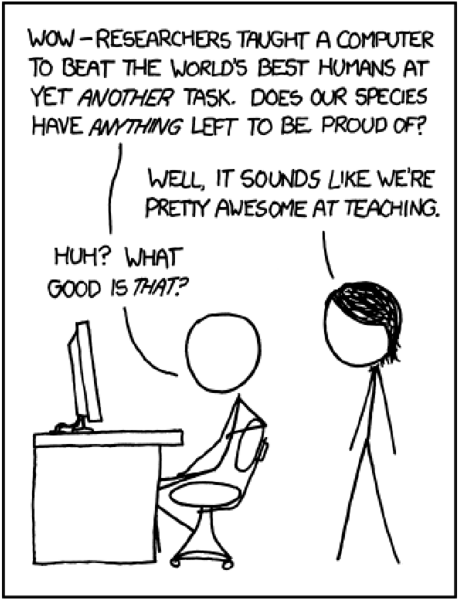
Maxie445

Nvidia CEO Jensen Huang says kids shouldn't learn to code — they should leave it up to AI

AI

Why learn to code?


WOW – RESEARCHERS TAUGHT A COMPUTER TO BEAT THE WORLD'S BEST HUMANS AT YET *ANOTHER* TASK. DOES OUR SPECIES HAVE *ANYTHING* LEFT TO BE PROUD OF?
WELL, IT SOUNDS LIKE WE'RE PRETTY AWESOME AT TEACHING.
HUH? WHAT GOOD IS *THAT*?

Python Short Reference

- Write YOUR OWN Python short reference
  - Collaboration strongly encouraged!

  the parts that you submitted in time & that were approved by us!
- Recommendation:

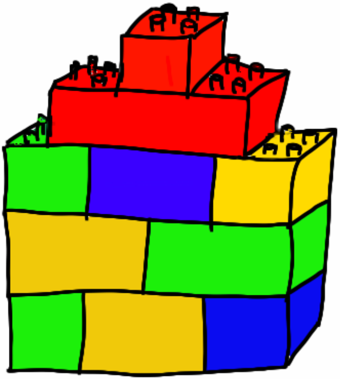
  Write the summaries each day in order to review course content!
- Just a few bullet points about the parts that were important to you — and/or are still unclear to you — is good!

How to prepare for the exam

= how to learn programming for your future life.

- Don’t just memorize.
- But: **train** programming until you are able to **quickly** solve any problem using your short reference.

How to prepare for the exam

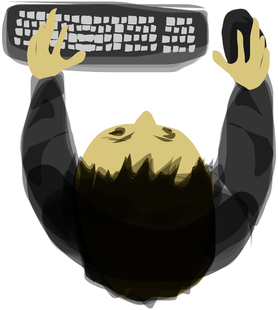


Hint

Learning a programming language is like learning a natural language.
Humans learn language through **interaction** with other humans.
You will learn programming only by interacting with your computer.

If you were not able to solve an exercise on your own, try the same exercise again the next day (without looking at the previous solution) - until you can solve it on your own!

Time management: some suggestions



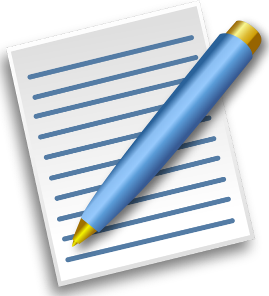
1. learn how to **type fast**.

   spend 10 minutes a day on:

   `www.typingweb.com`

   or any similar web site of your choice.
2. use **shortcuts**: `Ctrl+S/X/V, F5`
3. do not waste hours on finding your bugs
   - write code one line/function at a time, test your code, debug immediately
   - get help from your friends
   - make use of our tutorial sessions

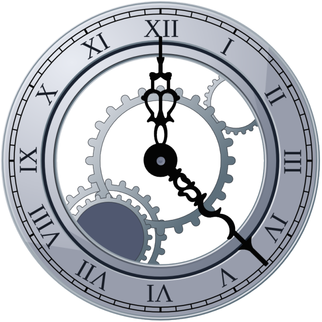
How to reach our goal: what you need to do



Material

Please have your **laptop** (with the required installations), **pen** and **paper** ready on your desk at the start of each lecture and tutorial session.

How to reach our goal: what you need to do



Please be on time

We will start on time.
The first 10 minutes of each session are (usually) the most important ones.

How to reach our goal: what you need to do

No Internet?

Please download course material (exercises/***notebooks***) before coming to class!

How to reach our goal: what you need to do

1. Why are we attending this course and what do we hope to learn?
2. We are willing to invest these efforts for this course (time, tasks): ...
3. We expect these things from the teachers/tutor: ...
4. We expect this from all students (including Not-TODOs):

`https://www.menti.com/al8ghdv418ho`

First Steps

1. Download and install Python:
   `https://www.python.org/downloads/`
2. Check that you can run `python` and `pip` from the commandline
   - Windows: Windows-Key → type `cmd` → hit Enter
   - Linux: Ctrl+Alt+T
   - Mac: Cmd+Space→ type `terminal` → hit Enter
   - If needed, add Python installation path to PATH environment variable
3. Commandline: `pip install notebook`
4. Commandline: `jupyter notebook` → opens in browser
5. If it doesn't work after multiple tries and asking us for help:
   `https://colab.research.google.com`

First Steps, Part 2

1. Go to `https://github.com/jakpra/Python_CL_Fallschool`
2. If you know `git`, clone the repository
3. If not, download as zip
4. `UD_English-GUM` folder needs to be downloaded separately and then moved to the `Python_CL_Fallschool` folder
5. Go to the Jupyter Notebook tab in your browser
6. Open `1a_Introduction.ipynb`

Homework

Come up with a research question that could be answered with text data like the UD-GUM corpus. What are the high-level steps you would need to go through to get closer to an answer?