
MongoDB
Python
C++
CSS
ReactJS
HTML
Node.js
JavaScript
MySQL
PHP
Angular
Oracle
Sql
Ruby

# Who Am I?

**Name:** Ben Meir

**Age:** 33

**Education:** BS in Industrial Engineering

and Management from Ben-Gurion University

**Current Workplace:** Natural Intelligence

Selected as the 15th top high-tech company to work in 2021

**Current Position:** Backend Software Developer

**Experience:** more than 5 years in the industry

(Solaredge, Bizzabo, Natural Intelligence)


TELL ME ABOUT YOURSELF

# High-tech industry introduction

- High-tech industry - A company considered a high-tech company when its core business involved working on the most advanced technologies available ( “cutting edge” technologies)
- When the company core business involved working on traditional or mechanical technology we can call it low-tech company
- When high-tech become old it will be consider from this point as low-tech

For example:

Company that its main business is selling home phones -

Once we could consider it as high-tech company but now its an old technology so we consider it as low-tech company

# The Israeli High-tech industry

- Israel nickname is **“the startup nation”** and located as the second most advanced high tech industry country in the world (the first is USA)
- Today working in israel more than 2500 high tech companies and startups from variety of industries
- In 2021 alone more than 15 high-tech companies went public and started trading at USA stock market
- In 2021 alone Israel created more than 17 new **“unicorns”**

  Unicorn - is a nickname of a startup that value more than 1 Billion dollars (1,000,000,000$)









KALTURA

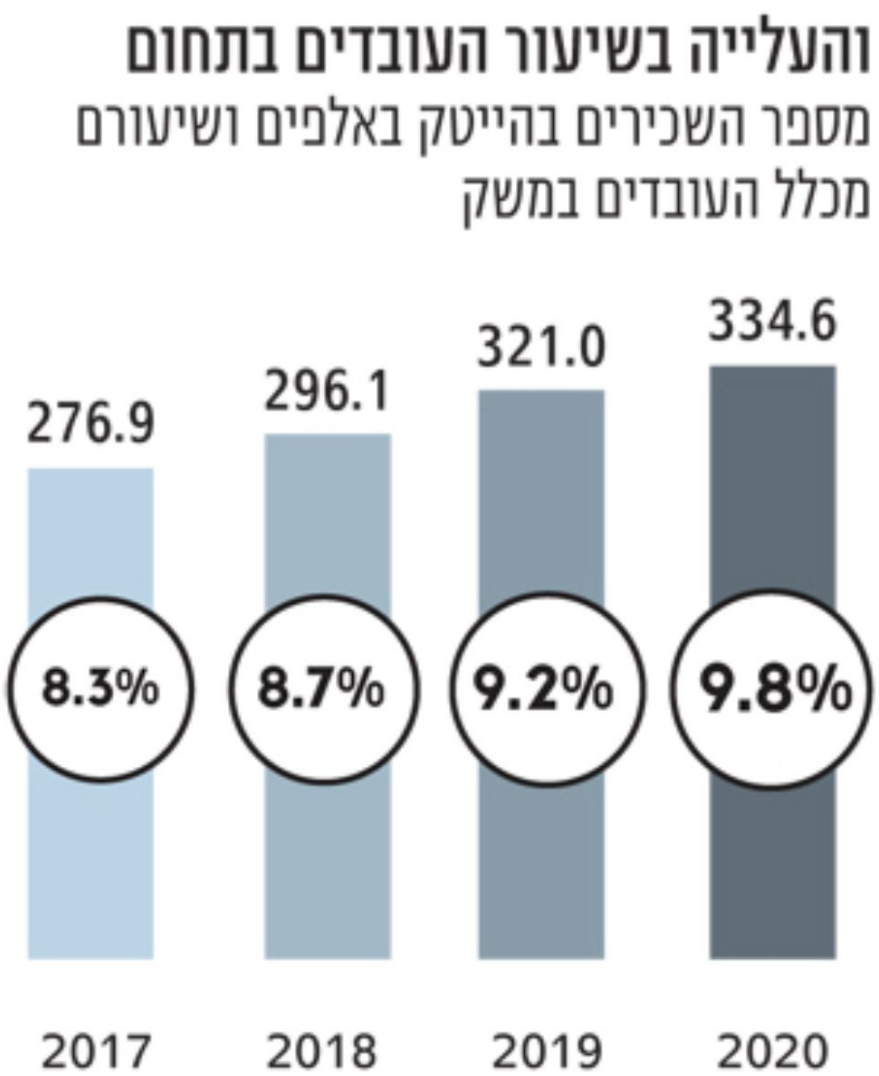
ECOM SCHOOL

המכללה למקצועות הדיגיטל וההייטק

# Why the high tech industry is important to Israel?

- Only 10% of the entire isreali workers are working in high-tech companies,
  But because of the high salaries those workers are responsible for almost 25% of the tax income

- In addition, high tech companies are providing a lot of work to other undirected small business
  For example:
  - By providing 10bis for the employees they provide customers to multiple restaurants
  - By renovating the company offices every couple of years the support renovators




# 60% מחברות ההייטק בארץ מתקשות מאוד בגיוס עובדי פיתוח

שורת חברות החלו בגיוס מאות עובדים אך המחסור הכרוני עדיין כאן. לפי דו"ח רשות החדשנות הקורונה פגעה בשילוב נשים, ערבים וחרדים בהייטק

מאיר אורבך 06:55, 22.04.21

**תגיות:** גיוס עובדים | אבטלה | מובטלים | הייטק

מחסור בעובדים בהייטק: יותר מ־60% מחברות ההייטק בישראל מדווחות על קושי רב בגיוס כוח אדם בתחום הפיתוח. כך עולה מדו"ח של רשות החדשנות ו־Start-Up Nation Central.

# Why people want to work in the high tech?

- **High Salary:**

  By July 2021 the average salary in Israel stand on **11,772 NIS**

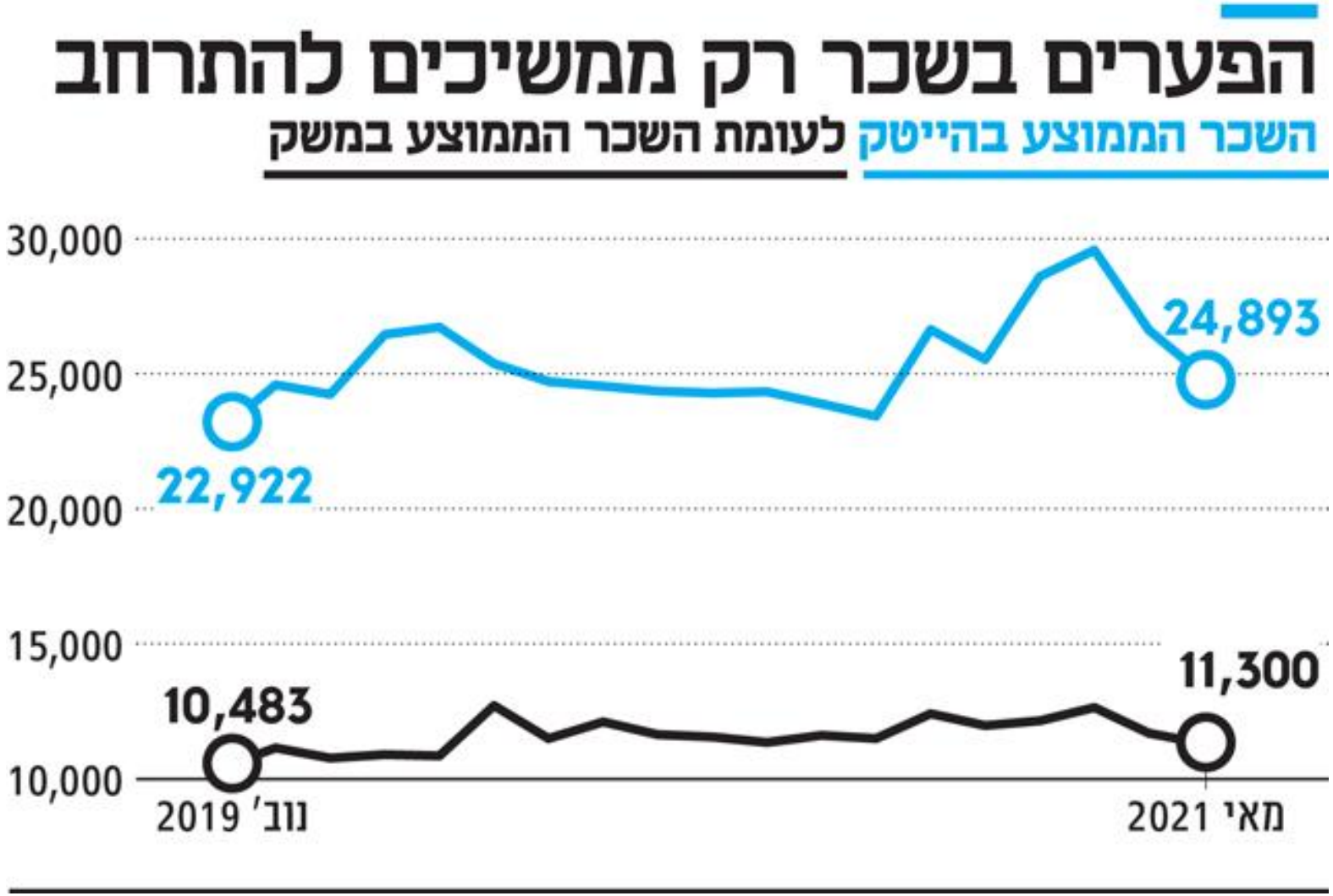
  The average salary in the high tech for that period stand on **26,612 NIS**

  As you can see the high tech employees are making more than twice as much money

השכר בהייטק זינק ב-9.4%, השכר הממוצע במשק – ירד

על פי הלמ"ס, השכר הממוצע בתחום ההייטק ביולי עמד על 26,612 שקל, כאשר השכר הגבוה ביותר נרשם בתחום תכנות וייעוץ. השכר הממוצע במשק ירד ביולי ב-3.3% ל- 11,772 שקל. שיעור האבטלה נותר כמעט ללא שינוי על 7.9%

דורון ברויטמן 13:00, 04.10.21


הפערים בשכר רק ממשיכים להתרחב
השכר הממוצע בהייטק לעומת השכר הממוצע במשק
30,000
25,000
20,000
15,000
10,000
22,922
24,893
10,483
11,300
נוב' 2019
מאי 2021

| טבלת שכר עבור מהנדס תוכנה/פיתוח | | | | |
|---|---|---|---|---|
| תחום | 0-2 שנים | 3-5 שנים | 6-10 שנים | דרג ניהולי |
| .Net Developer | 20-25 | 25-35 | 32-38 | 35-45 |
| C++ Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| JAVA Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| Frontend Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| Python Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| Full Stack Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| Node JS Developer | 20-25 | 25-35 | 32-40 | 40-50 |
| שכר Big Data Developer | 25-28 | 30-35 | 40-45 | 45-50 |
| שכר מפתח SCALA | 25-28 | 30-35 | 40-45 | 45-50 |
| מפתח REACT | 20-25 | 25-32 | 32-40 | 38-45 |
| שכר Data Engineer | 23-28 | 28-33 | 33-38 | 35-45 |
| Software Architect | 25-28 | 30-35 | 40-45 | 45-50 |
| שכר בוגר/ת מצטיין/ת | 19-26 | | | |

**למשרות דרושים הייטק בתחום משרות דרושים עבור מהנדס תוכנה/פיתוח תוכנה**

# Why people want to work in the high tech?

- **Challenge and Promotions:**

  High tech companies are known for their ability and willingness to promote excellent employees.

  Promotions can be at the **managerial level** or at the **professional level** and in most cases will involve with upgrading your contract conditions (higher salary, more vacation days exc…)

  For example:

  - Manual QA can change his role to automation QA developer
  - Frontend developer can change his role to Fullstack developer
  - Developer can be promoted to Team Lead (managerial level) or to Senior Developer (professional level)

# Why people want to work in the high tech?

- **Amazing work conditions:**

  In almost every high tech company you will get:

  - Between 17 - 24 vacation days
  - Sick days payment starting from the first day
  - Pension and “Keren Hishtalmot” on your entire salary amount
  - No clock hours required

    (You will be magared according to your work and not how much time you spent in the office )
  - Hybrid environment - working from the office and from your home

# Why people want to work in the high tech?

- **Other “Pinukim”:**
  - 10bis / Cibus
  - Food and drinks will be available anytime you want in the company kitchen
  - Amazing gifts for holidays and birthdays
  - Company events and parties happening, on average, every couple of months
  - Company trip, on average, once a year (sometimes it will include a flight :)

# How to become a Software Developer?

- **The traditional path -** Successfully graduate with a computer science or software engineering degree from a known institution.

  **Average Time to enter:** 3-5 years

- **The non traditional path -**
  - Taking a software development boot camp course

    **Average Time to enter:** 1-1.6 years
  - Start working at a different role in the company and once you approve yourself request to change your position to a software developer

    **Average Time to enter:** 2-3 years
  - Learn everything that related to software development by yourself

    **Average Time to enter:** 2-3 years

# Skills you must have to become a Software Developer

- Excellent control in the english language
- Be an autodidact person - ability to learn things on your own
- Be a problem solver - keep thinking on solutions to problems and not just raise those problems
- Be curious, ask questions and always drive yourself to learn more
- Be a team player


Q&A

# Fullstack Fundamentals

# What is a programming language?

- **A programming language** is a type of written language that tells computers what to do.

  Programming languages are used to write all computer programs and computer software. It's like a set of instructions that the computer is follow in order to do something.

- A programmer writes text in the source code of a programming language to make programs.

  Usually, the programming language uses real words for some of the commands (e.g. "if... then... else...", "and", "or"), so that the language is easier for a human to understand.

- **Compilation -** In many programing languages the code must be compiled before the computer could understand it.

  The computer will translate our programming language code into a machine code which it better understand. This process is called compilation

# Why do we need programming language?

In the word of software development we want to use machines to automate things that we can't or don't want to do by our own.

For example the process of manually sending a greeting card will contain small steps like:

- Go to the greeting card shop
- Choose the card
- Pay for the card
- Write the names and address
- Go to the post office
- Buy stamps
- Add the stamps and drop the card in the post drop box.

# Types of software development

Because we can use software to automate many things in may areas we will see that there are many different types of software development. Often, the various kinds of developers work together to bring a project to producaction.

- **Frontend developer -** work on the part of the product with which the user interacts. They are primarily concerned with the user interface (UI). For example, they might create the layout, visual aspects, and interactive elements of a website or app.

- **Backend Developer -** works with the part of the product users can't see — the back end. This professional builds the infrastructure that powers the website, app, or program, focusing on functionality, integration of systems, and core logic. They will also deal with the complex, underlying structure, ensuring strong performance, scalability, and security.

# Types of software development

- **Full Stack developer** - works on all aspects of the product, including both the front and back ends, Also called End-to-End. To be a successful full-stack developer, you must have strong programming skills, as well as a deep understanding in both the Frontend development fundamentals and the Backend. You must be familiar and comfortable working with both technologies.

- **Desktop Developer -** exclusively create applications that run on a desktop operating system, such as Windows, Mac, or Linux. This is opposed to developers that create applications that run on mobile, tablet, or other devices.
  This type of specialization was more ubiquitous in the early days of programming, back before the days of mobile applications

# Types of software development

- **Mobile Developer -** builds applications that run natively on mobile devices, including smartphones, tablets, and some types of smartwatches. Usually, these professionals will specialize in either iOS or Android development but not both.

- **Game Developer -** help transform games from a concept to a playable reality. They do this by coding visual elements, programming features, and testing iterations until a game is ready for market. The type of work you do as a game developer will vary depending on the size of the company you work for and your specialization. At bigger game companies, you're more likely to have a more specialized role working on a specific element of the game. At small companies you may have a hand in multiple processes in a game's lifecycle.

# Types of software development

- **Devops Developer -** DevOps is a set of practices and philosophies that are focused on the quick, efficient, and customer-centric delivery of software.
  A DevOps developer introduces processes, tools, and methodologies to balance needs throughout the software development life cycle, from coding and deployment, to maintenance and updates.

- **Test Automation Developer -** design and write programs that run automated tests on new or existing software – an essential part of the software development cycle. They use automation frameworks (standardised guidelines) to build these programs on and write test scripts that do the testing.

# What a Successful Fullstack developer needs to know?

The amount of knowledge that a fullstack developer need to know in order to become successful is pretty big. Here is the main technologies a Fullstack developer should be familiar with:

- **HTML -** HyperText Markup Language
- **CSS -** Cascading Style Sheets
- **Javascript -** The core programming language of web applications
- **Backend languages -** Java / C# / Python / Node.js / PHP / Ruby
- **Databases -** Mysql / SQL Server / Postgresql / MongoDB / Redis
- **Frontend Framework -** React / Angular / Vue.js / jQuery
- **Backend framework -** Springboot / Django / Express.js / Flask
- **Version control software -** Git & Github / Gitlab
- **Modern development concepts -** Microservices, Cloud base development (AWS / Azur / Google Cloud)

# Class Exercise - Download Virtual Studio Code

# Class Exercise - Download Virtual Studio Code

Instructions:

Go to https://visualstudio.microsoft.com/downloads/

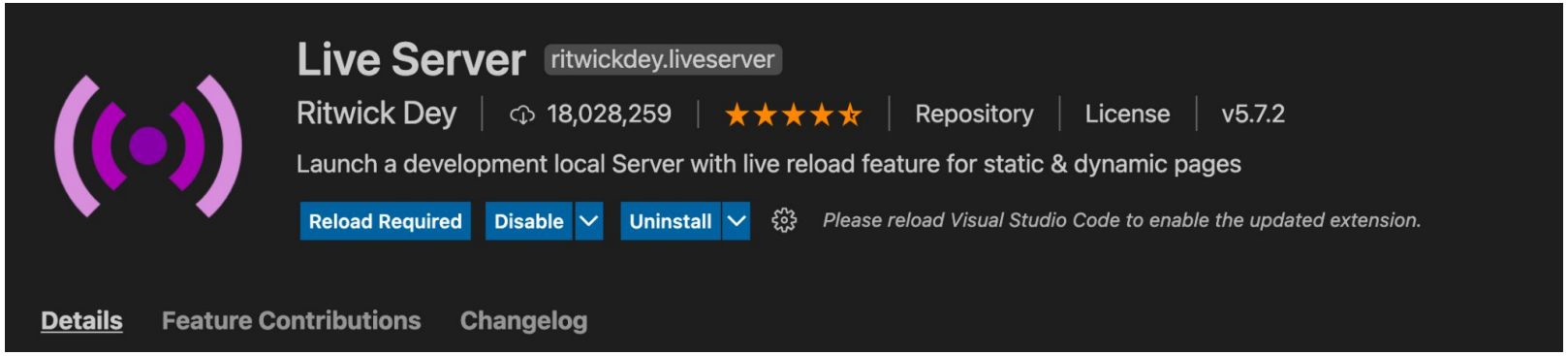
Download **Virtual Studio Code**

Go to https://marketplace.visualstudio.com/items?itemName=ritwickdey.LiveServer

Download LiveServer into your virtual studio code program

Inside virtual studio code: go to Code –> Preferences –> Extensions

Search for LIveServer and see that it is installed



# Class Exercise - Download Virtual Studio Code

Check that everything is working:

- Create a new project on your virtual studio code program
- Create a new file inside this project and call it index.html
- Write the line <h1>{Your Name}</h1>
- On the bottom navbar press on “Go Live”


- See that the browser opened an internet page with this address: http://127.0.0.1:5000/index.html and you can see your name on it