Software Engineer's Life Manual

How to live and build a successful career as a software developer, even if you are self-taught

Module 01 Let's Start!

Ali Samanipour

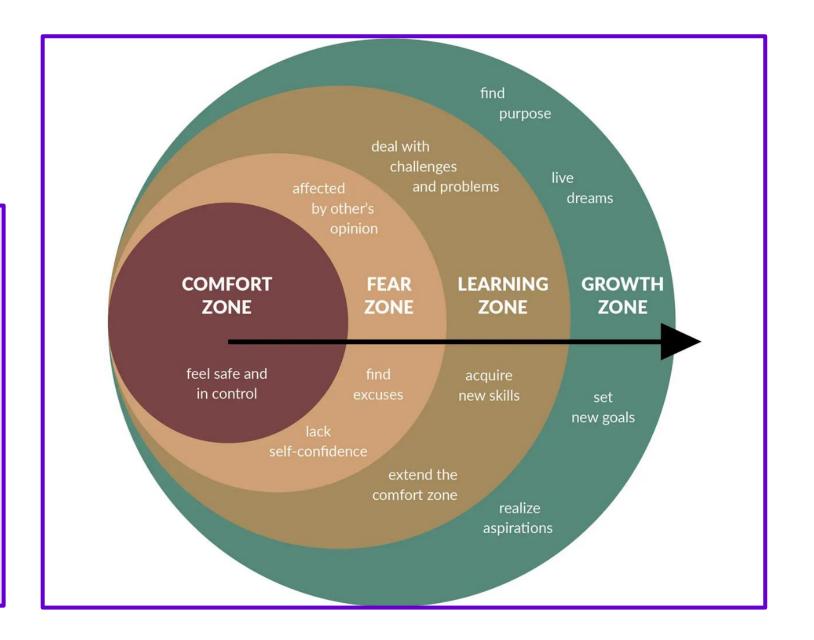
March. 2023

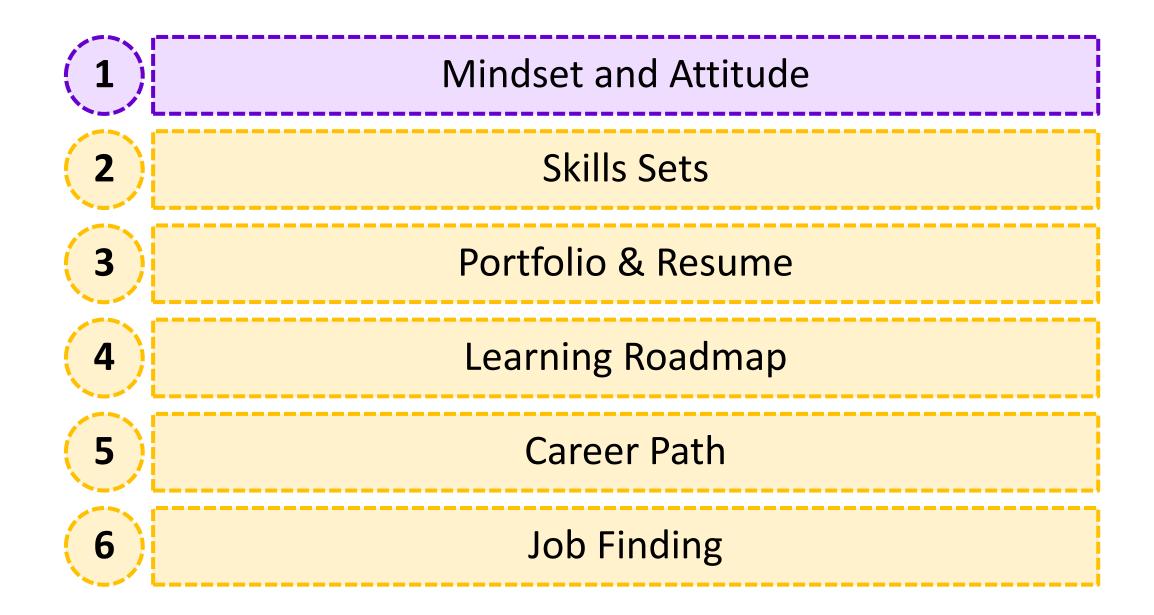
Ali Samanipour linkedin.com/in/Samanipour

Form Comfort to Growth

"If the road is easy, you're likely going the wrong way."

Terry Goodkind





Growth Mindset and Attitude

"Nothing in this world can take the place of good old persistence. *Talent won't.* Nothing's more common than unsuccessful men with talent. *Genius won't.* Unrecognized genius is practically a cliche. *Education won't.* Why the world is full of educated fools. *Persistence* and determination alone are all powerful."

Raymond Albert Kroc

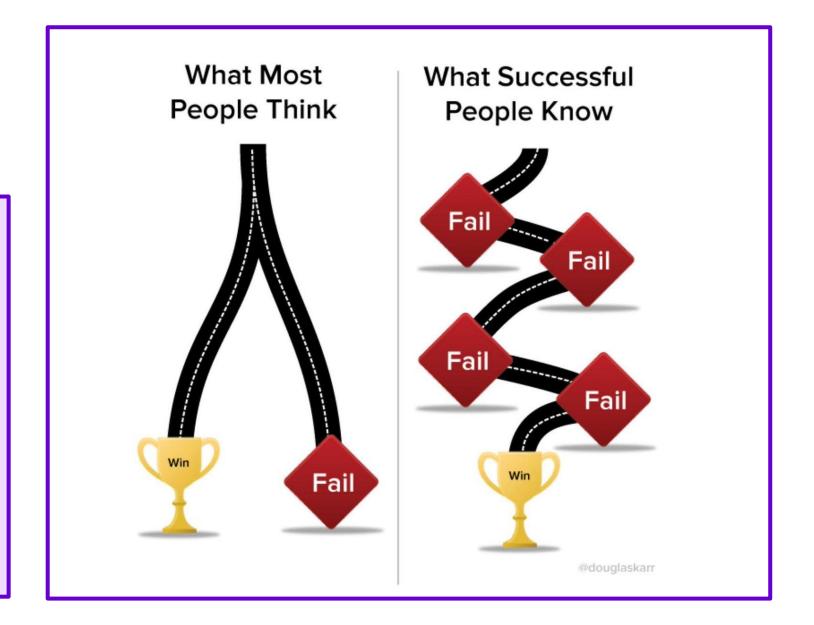
Growth Mindset and Attitude

"The Fifth Law: With persistence success can come at any time."

Albert-László Barabási

Congratulations!! You've Don It

Fail Fast
Fail Early
Fail Forward



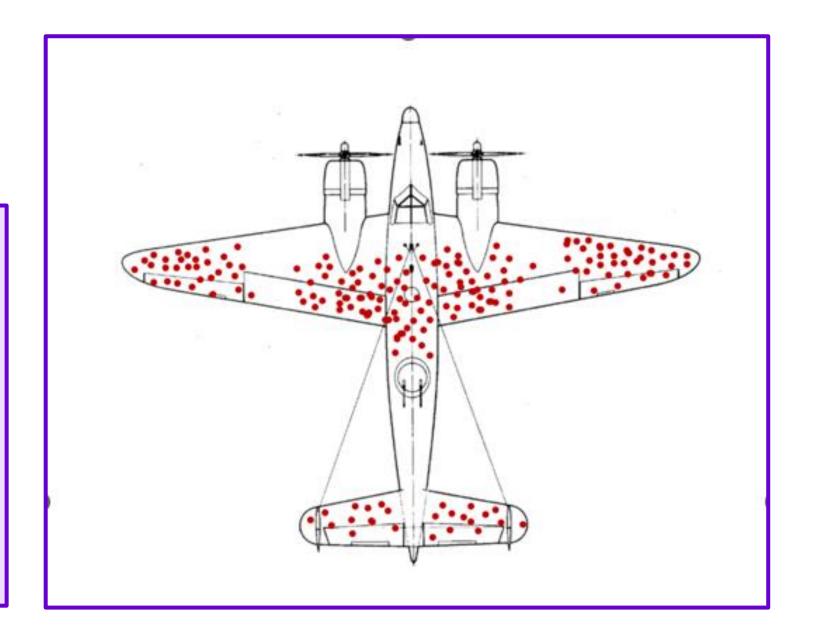
Growth Mindset and Attitude

""If you want to be successful, **learn from the other people's mistakes**, don't learn from the successful stories."

Jack Ma

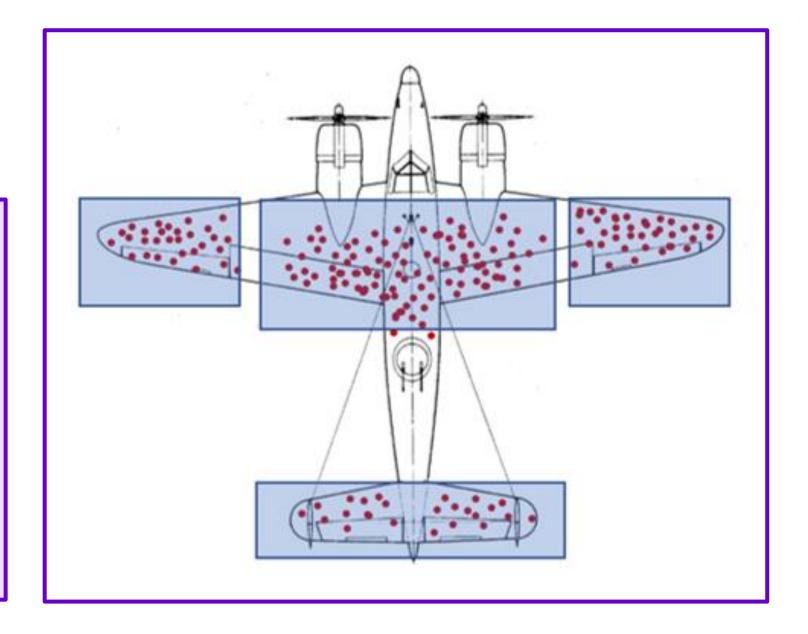
Survivorship Bias

Our data if only from returning flights. Visualization of the places that bullet holes were observed.

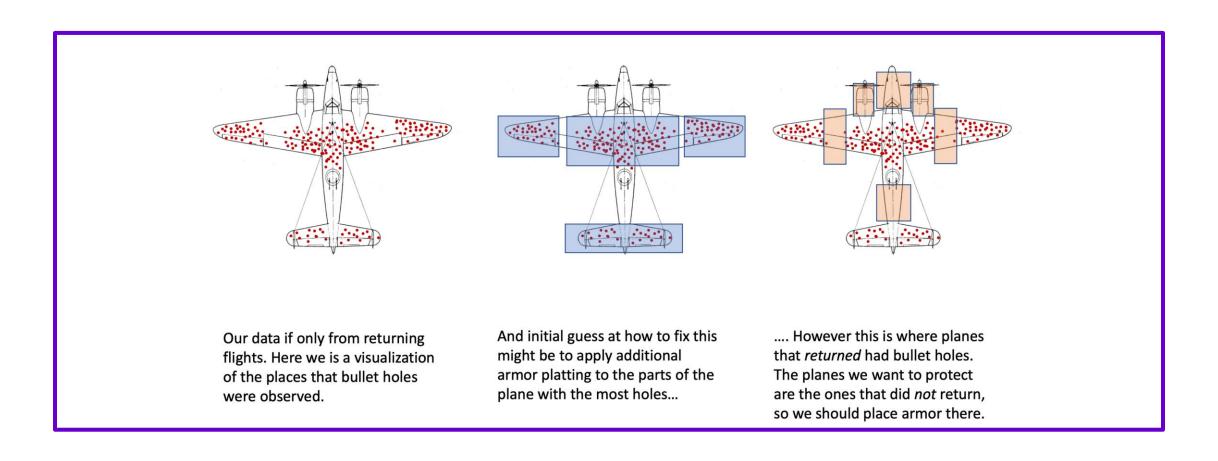


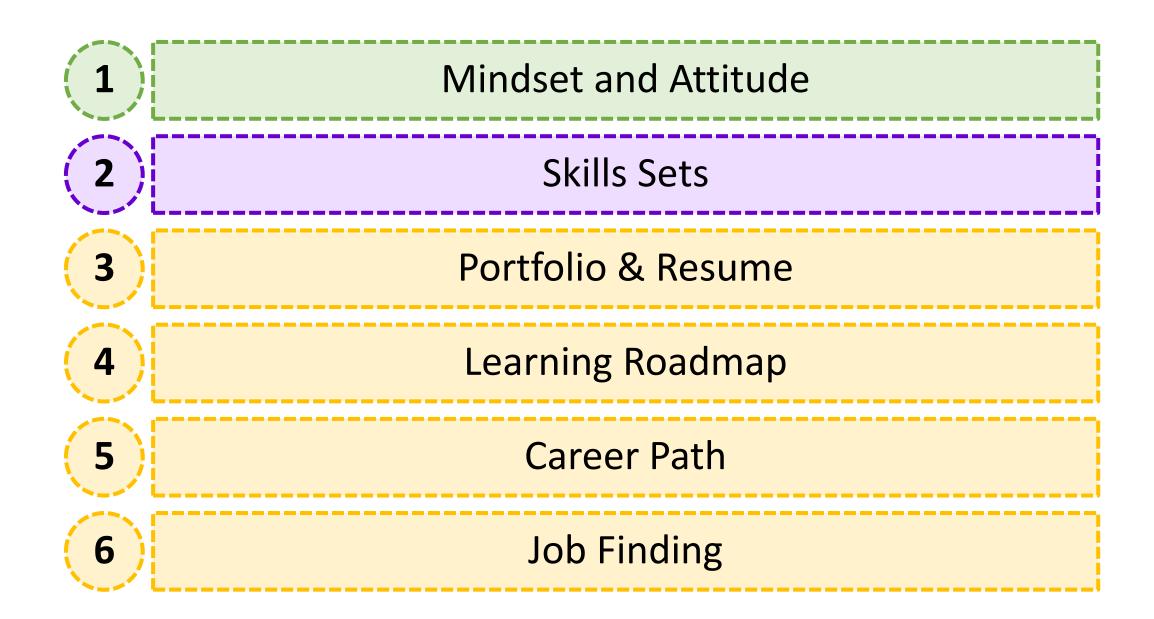
Survivorship Bias (Initial Guess, But Wrong!!)

An initial Guess at how to fix this might be to apply additional armor platting to the parts of plane with the most holes



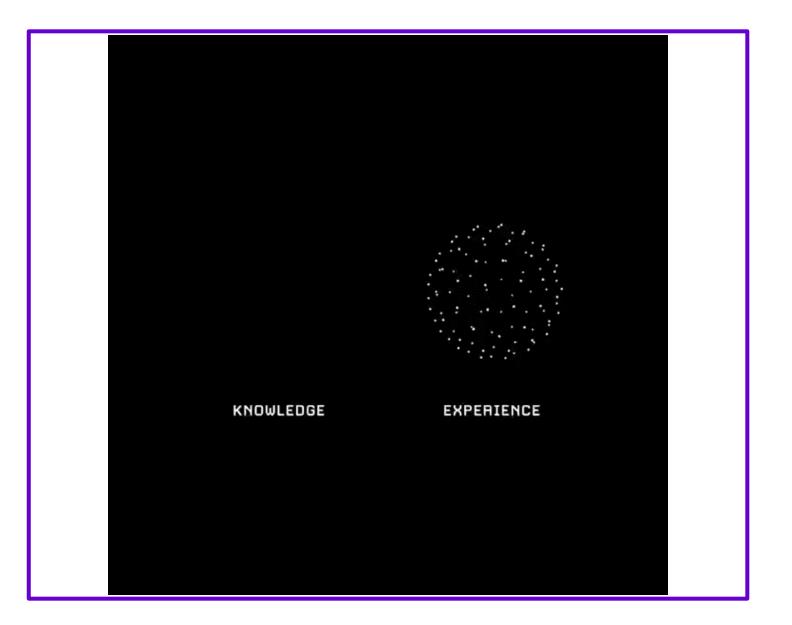
Survivorship Bias (The Right Answer)





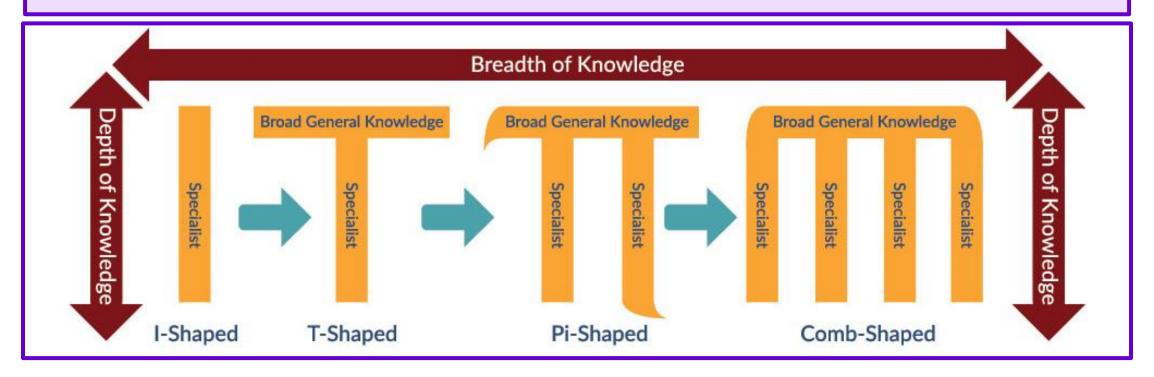
Your Portfolio (Knowledge vs Experiences)

Knowledge collects
the dots,
Experience
connects the dots.



Your Skill Set and It's Shape

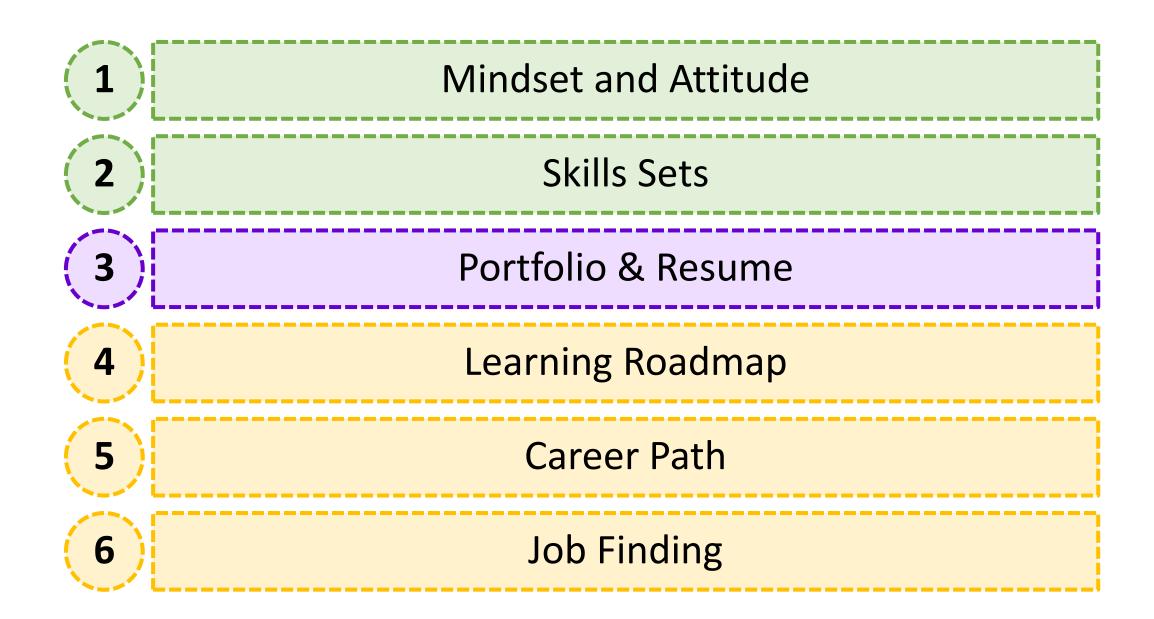
Now days you should at least have a T-Shaped Skills Set



Soft Skills vs Hard Ones

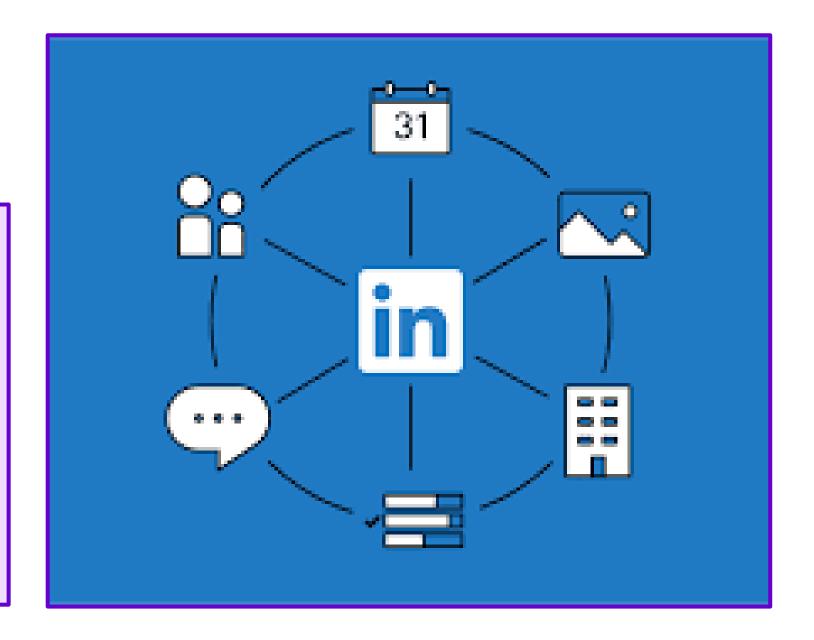
Soft Skills shape your mindset, Hard Skills shape your experience and your knowledge

Soft Skills Hard Skills VS. • Bilingual or multilingual Integrity · Database management Dependability Adobe software suite Effective communication Network security Open-mindedness SEO/SEM marketing Teamwork Statistical analysis Creativity Data mining Problem-solving Mobile development Critical thinking • User interface design Adaptability • Marketing campaign management Organization • Storage systems and management • Willingness to learn • Programming languages Empathy (such as Perl, Python, Java, and Ruby) Hard skills are technical knowledge or Soft skills are personal habits and training that you have gained through traits that shape how you work, on any life experience, including in your your own and with others. career or education.



Your Portfolio (LinkedIn.Com)

Online Resume Networking **Job Opportunities** Learning



Your Portfolio (For Developers and Programmers)

You will be evaluated and judged by your not only by your knowledge (certificates) but also by your experiences you have







How to Write Our Resume

Market culture matters, But It's better to be one page, single column, without pictures and be a prove for your skills



123 Spruce St, Apt 35 Philadelphia PA 19103



GAYLE L. McDowell

(555) 555-1212 gayle@careercup.com

EMPLOYMENT

Software Engineer, Intern

Apple Computer

Summer 2004

(5)

- Reduced time to render the user's buddy list by 75% by implementing prediction algorithm.
- Implemented iChat integration with OS X Spotlight Search by creating tool which extracts metadata from saved chat transcripts and provides metadata to a system-wide search database.
- · Redesigned chat file format and implemented backwards compatibility for search.

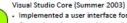
Lead Student Ambassador Microsoft Corporation Fall 2003 – Spring 2005

- . Promoted to Lead Student Ambassador in Fall 2004; supervised 10 15 Student Ambassadors
- · Created and taught Computer Science course, CSE 099: Software Design and Development

Head Teaching Assistant University of Pennsylvania Fall 2001 – Spring 2005

- · Courses: Advanced Java III, Software Engineering, Mathematical Foundations of Comp. Sci. I & II
- · Promoted to Head TA in Fall 2004; led weekly meetings and supervised four other TAs

Software Design Engineer, Intern Microsoft Corporation



- Implemented a user interface for the VS open file switcher (ctrl-tab) and extended it to tool windows.
- Created service to provide gradient across VS and VS add-ins. Optimized service via caching.
 Programmer Productivity Research Center (Summers 2001, 2002)



· Created test case generation tool which creates random XML docs from XML Schema

EDUCATION

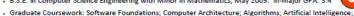
Philadelphia, PA

University of Pennsylvania

Fall 2000 - May 2005

Summers 2001 - 2003

M.S.E. in Computer and Information Science, May 2005. GPA: 3.6
 B.S.E. in Computer Science Engineering with Minor in Mathematics, May 2005. In-major GPA: 3.4



- Comparison of Learning Algorithms; Computational Theory
- Undergraduate Coursework: Operating Systems; Databases; Algorithms; Programming Languages; Comp. Architecture; Engineering Entrepreneurship; Calculus III

TECHNICAL EXPERIENCE

Projects



- Multi-User Drawing Tool (2004). Electronic classroom where multiple users can view and simultaneously draw on a "chalkboard" with each person's edits synchronized. C++, MFC
- Synchronized Calendar (2003 2004). Desktop calendar with globally shared and synchronized calendars, allowing users to schedule meetings with other users. C#.NET, SQL, XML.
- Operating System (2002). UNIX-style OS with scheduler, file system, text editor and calculator. C

ADDITIONAL EXPERIENCE AND AWARDS

- Instructor (2003 2005): Taught two full-credit Computer Science courses; average ratings of 4.8 out of 5.0.
- Third Prize, Senior Design Projects: Awarded 3rd prize for Synchronized Calendar project, out of 100 projects

Languages and Technologies

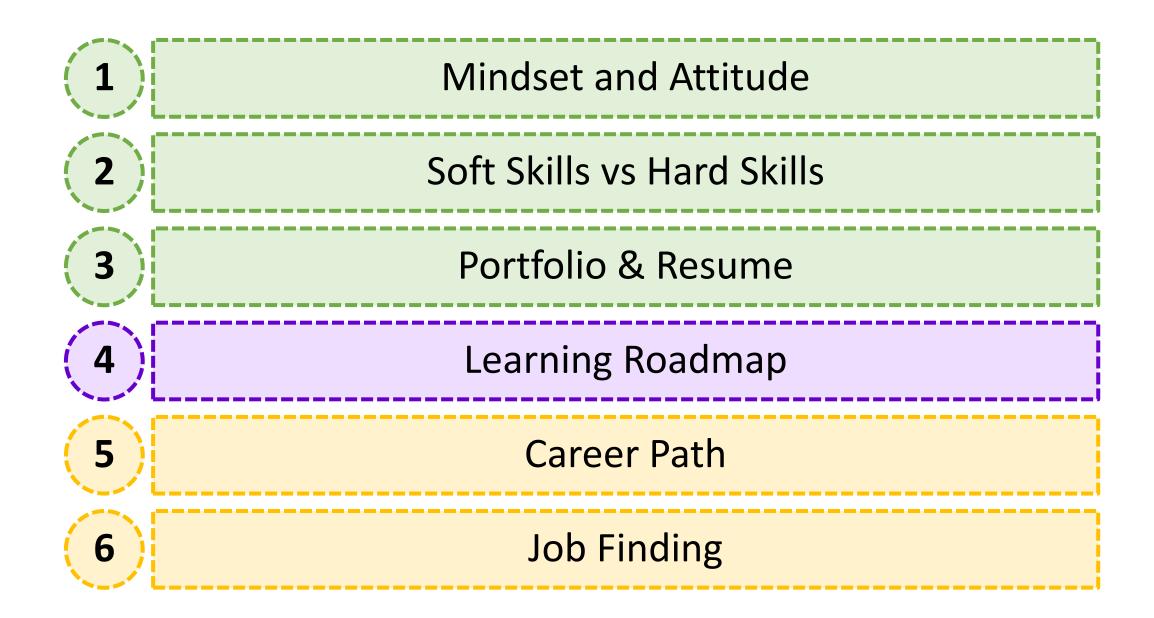


C++; C; Java; Objective-C; C#.NET; SQL; JavaScript; XSLT; XML (XSD) Schema

· Visual Studio; Microsoft SQL Server; Eclipse; XCode; Interface Builder



careercup.com



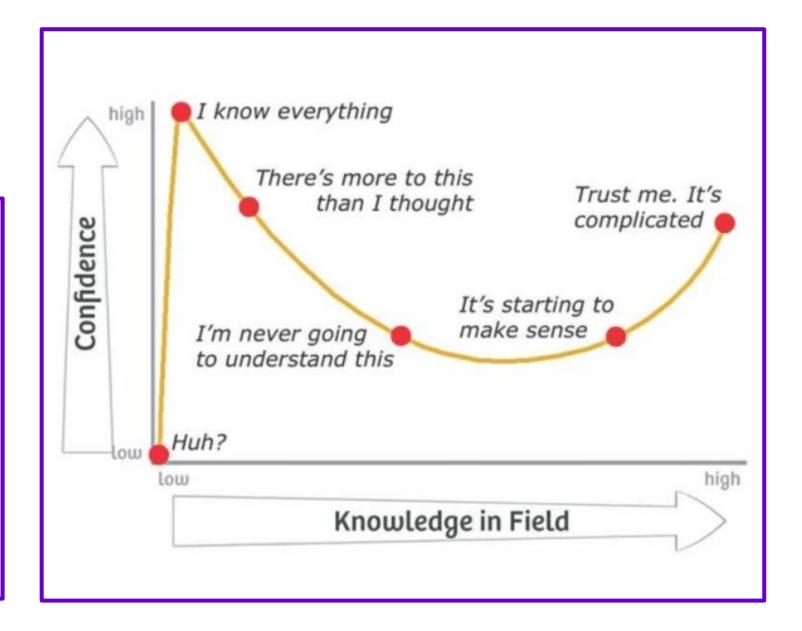
Growth Mindset and Attitude

"Humankind is facing unprecedented revolutions, all our old stories are crumbling, and no new story has so far emerged to replace them. How can we prepare ourselves and our children for a world of such unprecedented transformations and radical uncertainties?."

Yuval Noah Harari

Your Confidence vs Your Knowledge

Dunning-Kruger Effect, a path to seniority

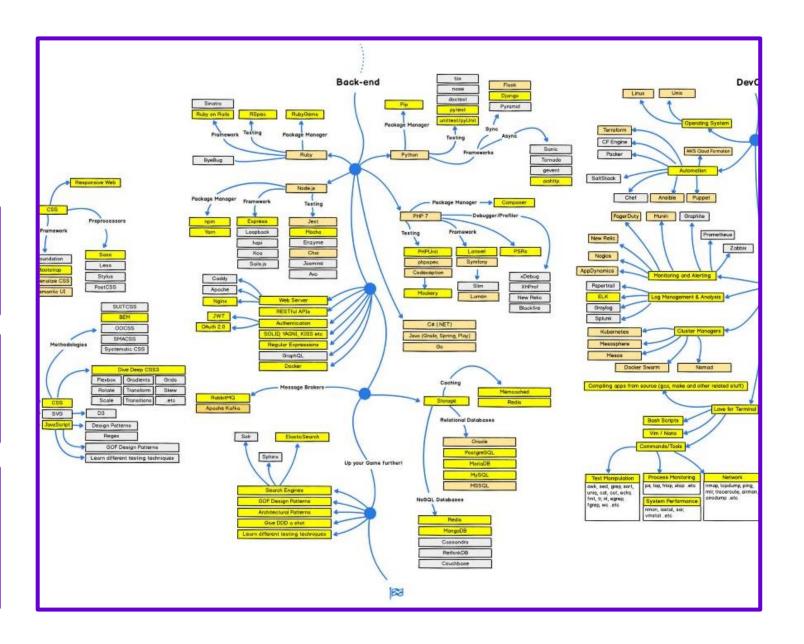


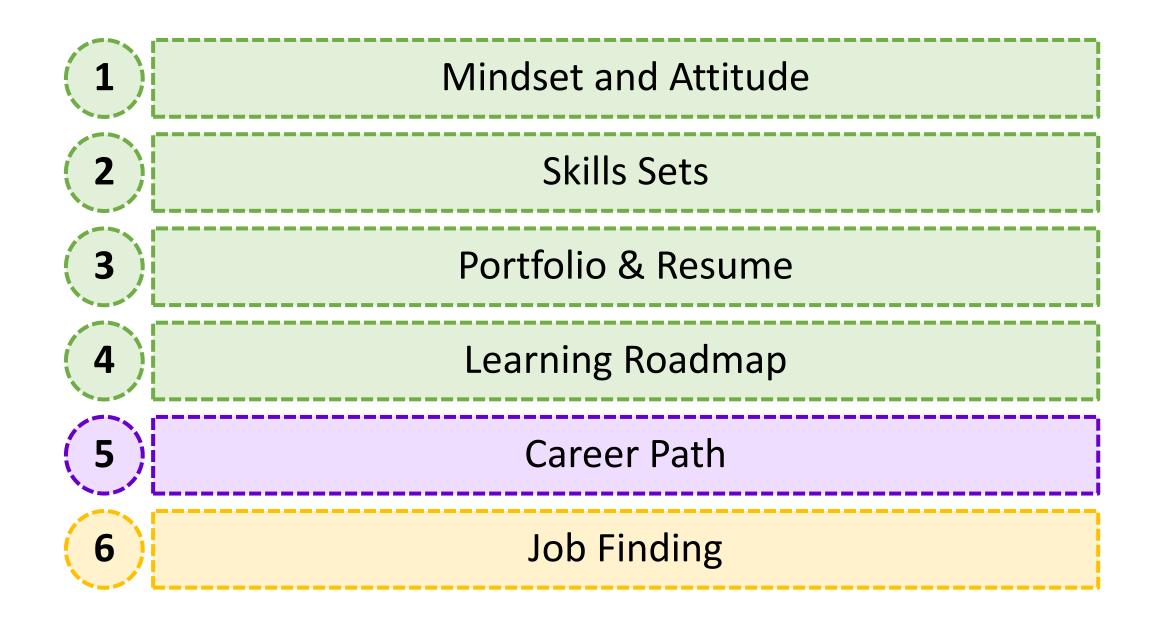
How we should know?! what we should know?! (the next step?!)

1. Get a Mentor

2. Get a Course

3. Use predefined roadmaps





Growth Mindset and Attitude

"The biggest mistake that you can make is to believe that you are working for somebody else. Job security is gone. The driving force of a career must come from the individual. Remember: Jobs are owned by the company, you own your career!"

Earl Nightingale

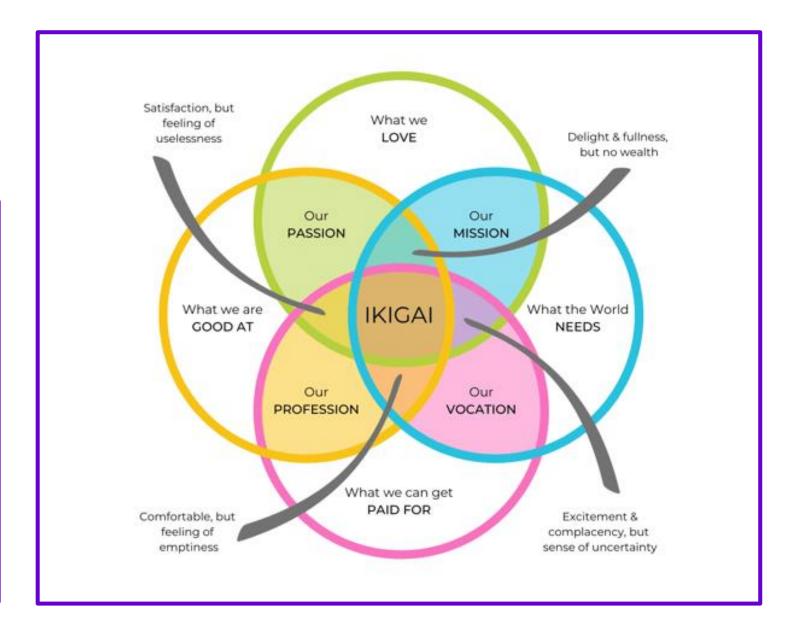
Your Personality Matters

You should known your self



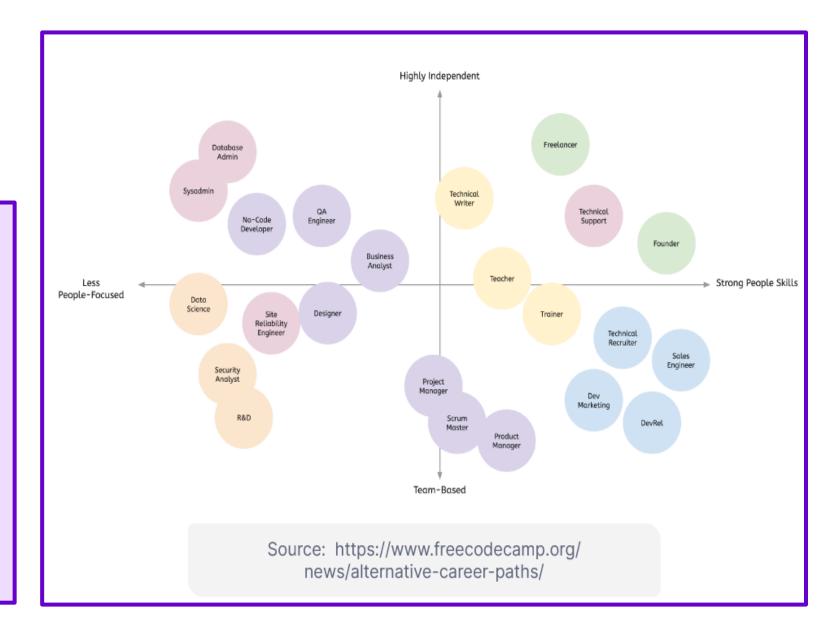
Your Personality Matters

You should known your self



How to choose our field (Your Personality matters)

Independency Type
And
Skills Type

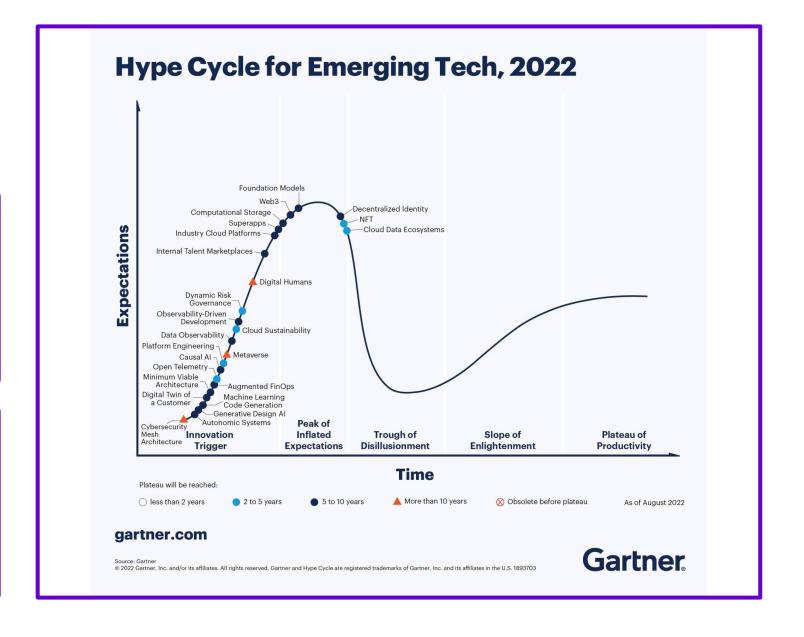


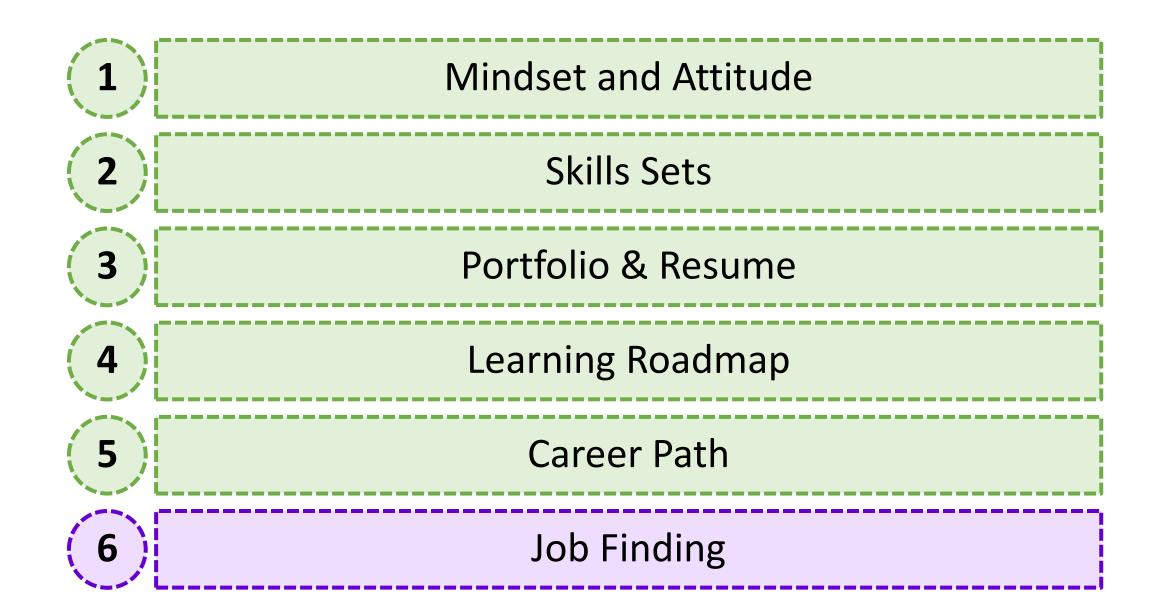
Valuable Knowledge, Market Needs and Trends

How we should know what we should know(learn)!?

(to be successful)

Job market and ads will guide you! But you should prepare for the future!





How get a job without any Experience?

You could (should) make your own experience (don't wait to someone prepare the situations for you)

Apply for free or paid Internship

Contribute to open-source projects on GitHub

Work on your own project and published it

Collaborate on Stack overflow or online judge platforms

Course References

- J. Harper, *A Software Engineer's Guide to Seniority*: A Guide to Technical Leadership. Apress, 2022.
- F. Doglio, Skills of a Successful Software Engineer. Manning, 2022.
- F. Sazanavets, The easiest way to become a software developer, How to get your first programming job, even if you are a self-taught coder. 2023.
- D. Moore, Letters to a New Developer: What I Wish I Had Known When Starting My Development Career. Apress 2020.
- D. Heller, Building a Career in Software: A Comprehensive Guide to Success in the Software Industry. Apress, 2020.
- S. S. Wang, The Coding Career Handbook: Guides, Principles, Strategies, and Tactics from Code Newbie to Senior Dev. 2022.

Accessing Course Resource



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