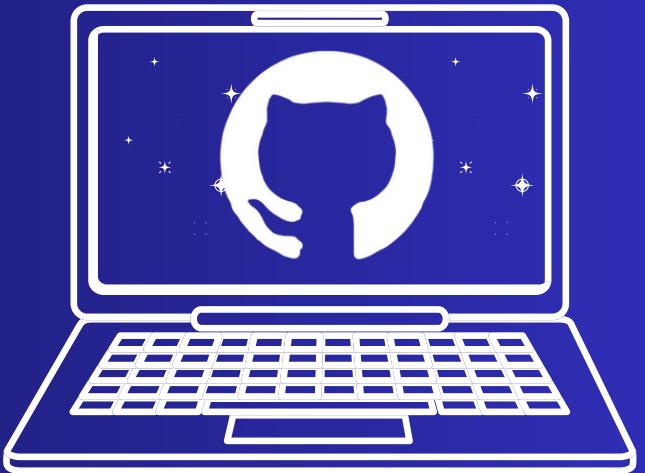




Preparing For the Software Engineering Job

v3



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@JEROMEHARDAWAY

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Hey, Y'all. I'm Jerome.

Founder, VetsWhoCode
Engineer, Microsoft
CTO, MyRuck AI

LinkedIn Top Voice in Teaching



[linkedin.com/in/jeromehardaway](https://www.linkedin.com/in/jeromehardaway)

@jeromehardaway



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The current state of the job market.

We're facing one of the most challenging times we've ever seen. Both experienced professionals and those just starting their careers are struggling.

While AI boosts productivity, it also comes at a cost, particularly affecting the junior market. Recent Insider reports highlight that the market is favorable for those earning under \$50,000 a year. However, for those aiming for salaries over \$87,000, it is one of the most demanding markets in the industry.

But remember, challenges are opportunities in disguise, and with the right strategies, we can still achieve our goals.

Our industry is not in a period of peace; we are in wartime. The challenges we face require resilience and adaptability, qualities that I know each of you possess.

Let's explore how we can navigate and thrive in this environment.





Here is my official stance on AI:

Artificial Intelligence is an integral part of the hiring process, affecting every layer from resume screening to interview scheduling. AI will be integrated into your current work stack on some level, making it essential for everyone to become proficient in its use.

My recommendation:

Start learning how to use artificial intelligence now.

AI's influence extends beyond the hiring process; it will impact every aspect of your work, including job searches and career development. Familiarizing yourself with AI tools and techniques is crucial for improving your chances of success in securing a job and advancing your career.

AI proficiency is not just a competitive edge—it's becoming a fundamental skill in today's job market. By embracing AI and incorporating it into your skillset, you position yourself for greater opportunities and long-term career growth.

In summary, AI is here to stay, and its role in our professional lives will only continue to expand. Equip yourself with the knowledge and skills to leverage AI effectively, and you will be better prepared to navigate the evolving job landscape and achieve your career goals.





Start learning how to use artificial intelligence now.



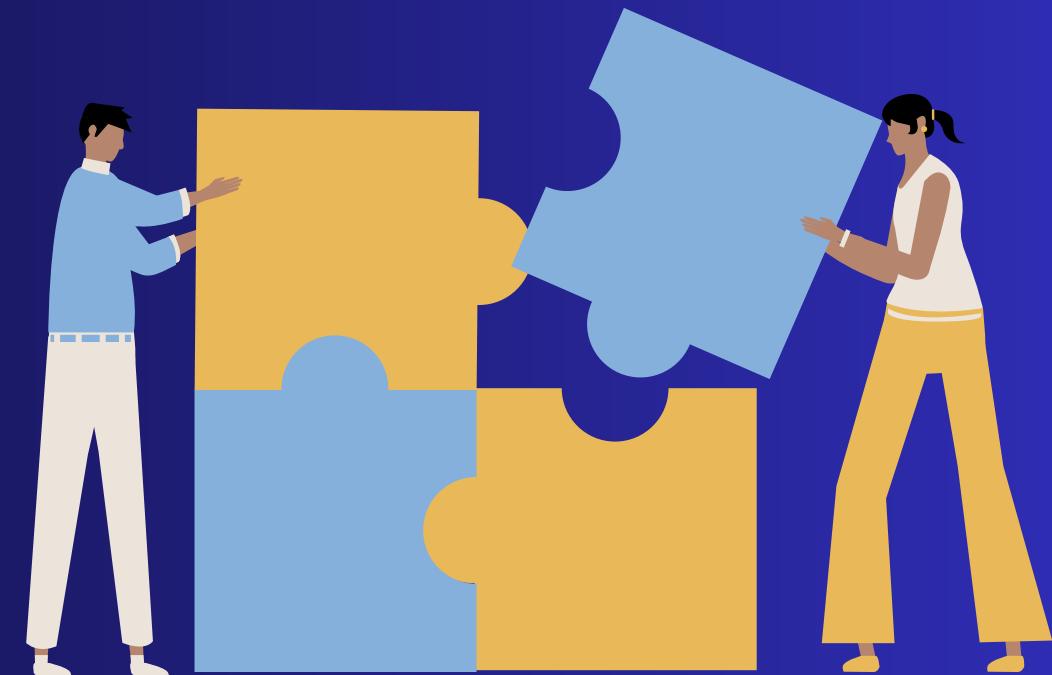
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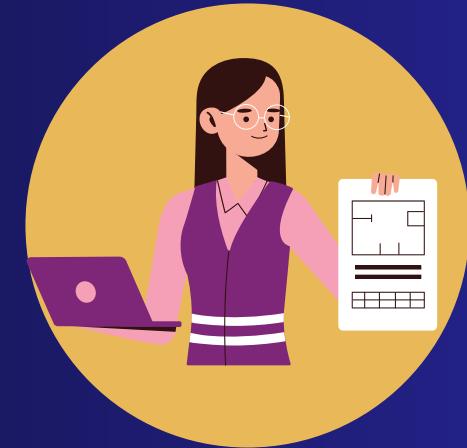
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Understanding The User Matrix



The User Matrix





User Zero (You)

- **Focus:** Personal Passion and Development
- **Objective:** As the primary user, your engagement and passion for your projects are crucial. If you are not invested in what you present, the quality and impact of your work can suffer. This segment of the matrix encourages you to infuse your personal interests and passions into your projects, ensuring they reflect your genuine enthusiasm and ongoing development in tech.



User One (ATS - Applicant Tracking Systems)

- **Focus:** Keyword and Technical Skill Identification
- **Objective:** These systems scan for specific keywords and technical skills to filter candidates for job roles. Optimizing your presentations and documents with relevant keywords can significantly increase your visibility to recruiters using ATS.



User Two (HR Managers)

- **Focus:** Profile Clarity, Organization, and Professionalism
- **Objective:** HR managers look for clarity, organization, and professionalism in your profile and any work-related documents. They assess how well you communicate your professional identity and organize your projects, which can influence their first impression of your professional capabilities.



User Three (Developer Teams)

- **Focus:** Technical Skills, Project Contributions, and Collaboration Ability
- **Objective:** This user type evaluates your technical skills, your contributions to projects, and your ability to collaborate effectively with team members. Showcasing your ability to work within a team and contribute meaningfully to projects is crucial, especially in environments that value collaborative development.



This matrix is a strategy for improving how you present all your work, ensuring it resonates well with every segment of your audience.

By effectively managing this matrix, you enhance not only your chances of professional success but also your satisfaction with your career progress.



Modern Resume Optimization for ATS





Extensive Experience
Strong Technical Skills
Impressive Achievements
Leadership and Collaboration
Educational Background
Continuous Learning and Certifications
Recognition and Awards
Diverse Projects
Volunteering and Leadership
Publications
Skills



John Doe
123 Main Street, Anytown, USA
john.doe@email.com
linkedin.com/in/johndoe

Professional Summary
Experienced Software Engineer with over 10 years in the industry, specializing in full-stack development and cloud technologies. Proven track record of improving system performance, leading successful projects, and continuously learning new skills. Adept at collaborating with cross-functional teams and committed to delivering high-quality solutions.

Work Experience
TechCorp, Inc.
Senior Software Engineer
Remote | 05/2019 - Present
- Led initiatives to optimize cloud infrastructure, increasing performance by 35% and reducing costs by 20%.
- Developed and maintained scalable web applications using React, Node.js, and AWS.
- Collaborated with product and design teams to implement user-centric features, boosting user engagement by 30%.

Web Solutions
Software Engineer
Anytown, USA | 07/2015 - 04/2019
- Spearheaded the migration of legacy systems to modern cloud-based architectures, improving efficiency by 40%.
- Enhanced application security by implementing best practices, reducing vulnerabilities by 50%.
- Provided mentorship and guidance to junior developers, fostering a collaborative and productive team environment.

Innovative Apps
Junior Software Developer
Anytown, USA | 01/2012 - 06/2015
- Contributed to the development of mobile and web applications, resulting in a 25% increase in customer satisfaction.
- Assisted in the implementation of CI/CD pipelines, reducing deployment times by 60%.
- Participated in code reviews and debugging sessions, ensuring high-quality code delivery.

Education
State University
Bachelor's Degree in Computer Science
2012

Certifications
- AWS Certified Solutions Architect – Associate
- Certified Kubernetes Administrator (CKA)
- Microsoft Certified: Azure Developer Associate

Awards & Recognition
- Employee of the Year, TechCorp, Inc. (2021)
- Excellence in Engineering Award, Web Solutions (2018)

Projects

E-Commerce Platform
TechCorp, Inc. | 2020
- Designed and developed a high-performance e-commerce platform using React and AWS, handling over 1 million transactions per month.

Cloud Migration Project
Web Solutions | 2017
- Led the successful migration of on-premises applications to AWS, reducing operational costs by 25%.

Skills
- Programming Languages: JavaScript, Python, Java
- Web Technologies: React, Node.js, HTML, CSS
- Cloud Platforms: AWS, Azure, Google Cloud Platform
- DevOps Tools: Docker, Kubernetes, Jenkins
- Database Systems: MySQL, MongoDB, PostgreSQL
- Soft Skills: Leadership, Communication, Problem-solving, Team Collaboration

Volunteering & Leadership
Code for Good
Volunteer Software Developer
Anytown, USA | 2018 - Present
- Developed web applications for non-profit organizations, improving their digital presence and outreach.

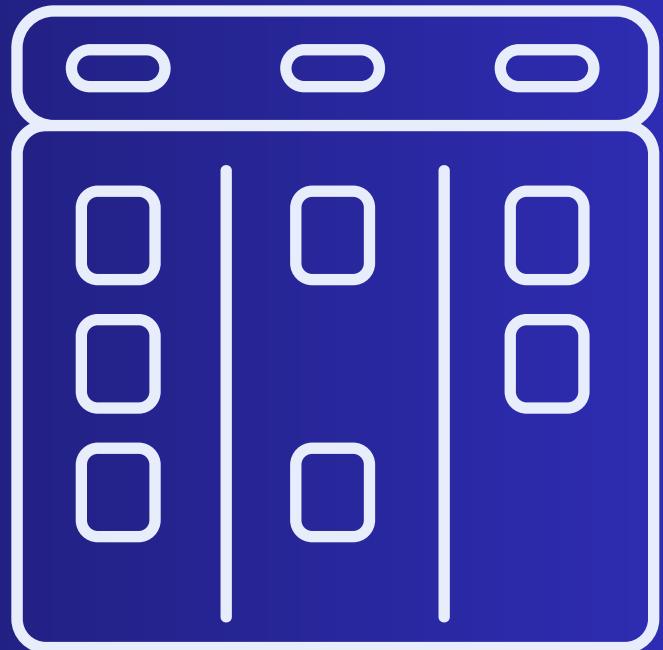
Local Tech Meetup
Organizer
Anytown, USA | 2015 - Present
- Organized monthly meetups and workshops to promote knowledge sharing and networking among local tech professionals.

Publications
“Mastering Cloud Migration: Strategies and Best Practices”
Tech Journal | 2021

“Effective CI/CD Implementation for Modern Web Applications”
DevOps Magazine | 2019



Mastering GitHub Project Boards



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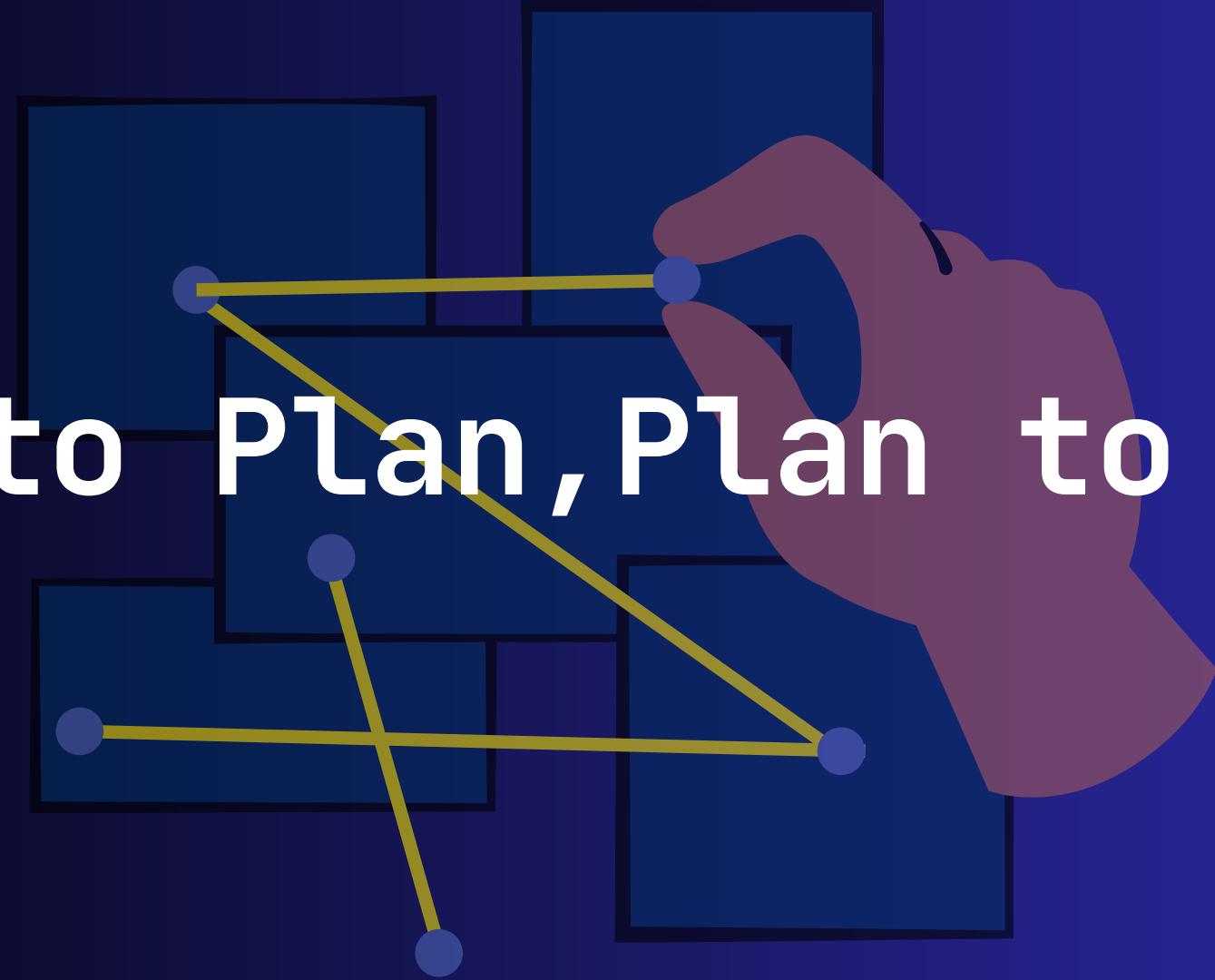
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Fail to Plan, Plan to Fail.



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In This Module:

Understanding GitHub Project Boards
Setting Up Your Project Board
Documentation and Visibility
Analytics and Storytelling
Best Practices for Project Boards

It's about showcasing your work ethic, your planning capabilities, and your commitment to excellence in a format that is easily digestible for collaborators, mentors, and potential employers.





Exercise: Customize Your Pre-Populated GitHub Project Board



Objective: Modify and adapt a provided GitHub Project Board template to better fit your specific project requirements and workflow preferences.

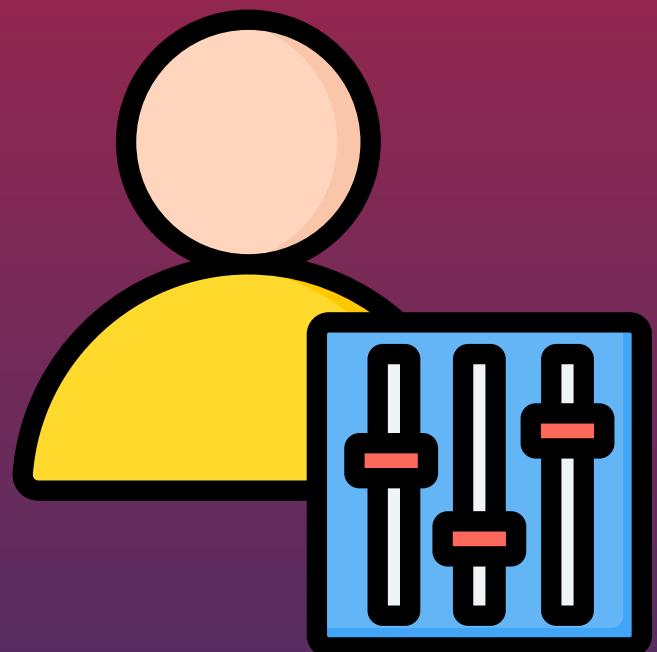
Steps:

1. Explore the Provided Template:

- Begin by reviewing the pre-populated board template you are given. Understand the layout, the types of columns used, the tasks that are already defined, and any automation that might be in place.



Exercise: Customize Your Pre-Populated GitHub Project Board



2. Identify Adaptation Needs:

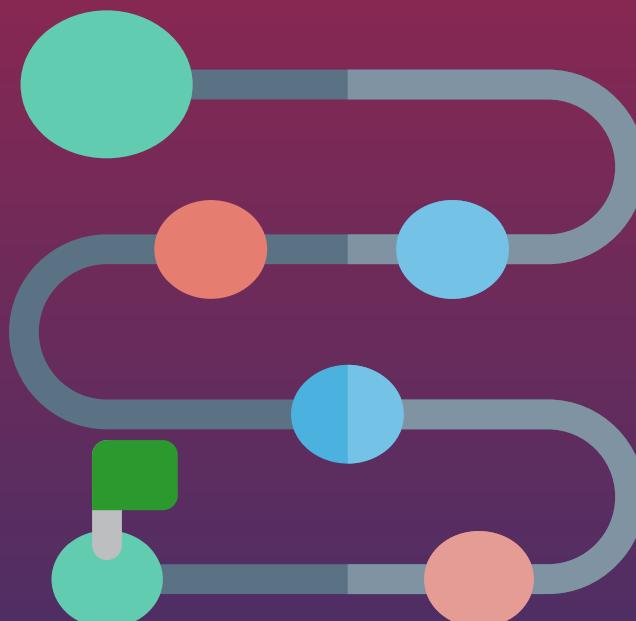
- Reflect on how the structure and content of the template align with your own project. Consider what changes might be needed to make the template more relevant to your work. This could involve renaming columns, changing the automation rules, or altering the labels and milestones.



Exercise: Customize Your Pre-Populated GitHub Project Board

3. Modify the Template:

- Start customizing the template -
 - Columns: Adjust the columns to match the stages of your project lifecycle. You might add, remove, or rename columns to better reflect your process.
 - Cards: Modify existing cards to reflect your specific tasks and add new cards as needed. Ensure each card has a clear title and description.
 - Labels and Milestones: Update or add new labels to categorize tasks by priority, type, or urgency. Set milestones for key project phases or deadlines.





Exercise: Customize Your Pre-Populated GitHub Project Board



4. Enhance Documentation:

- Update the documentation within each card to ensure clarity and completeness. This could include more detailed descriptions, expected outcomes, or specific notes on dependencies and requirements.



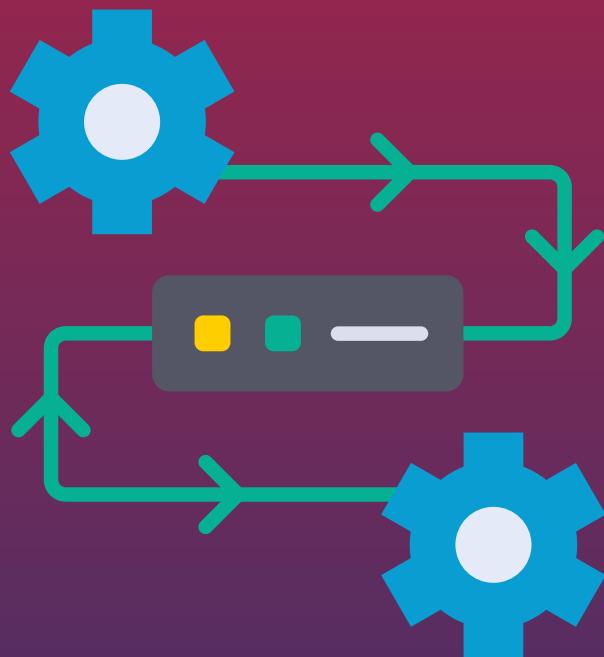
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Exercise: Customize Your Pre-Populated GitHub Project Board



5. Implement or Adjust Automation:

- Fine-tune the automation settings to streamline task progression through the workflow. Adjustments might include setting up triggers for moving tasks to different columns based on certain actions or conditions.

6. Test the Workflow:

- Simulate the workflow by moving cards through the stages to see how well the board functions. Make any necessary adjustments to ensure the board works smoothly and intuitively.



Crafting A Professional Github Profile & README



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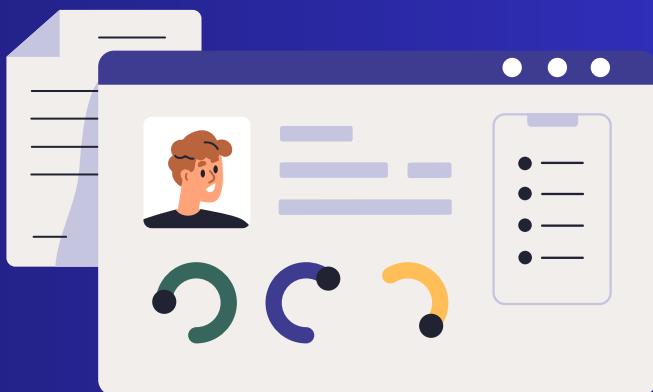
Module Objectives:

Select a Professional Profile Picture

Compose a Compelling Bio

Manage Contact Information Strategically

Set Up a Custom Profile README



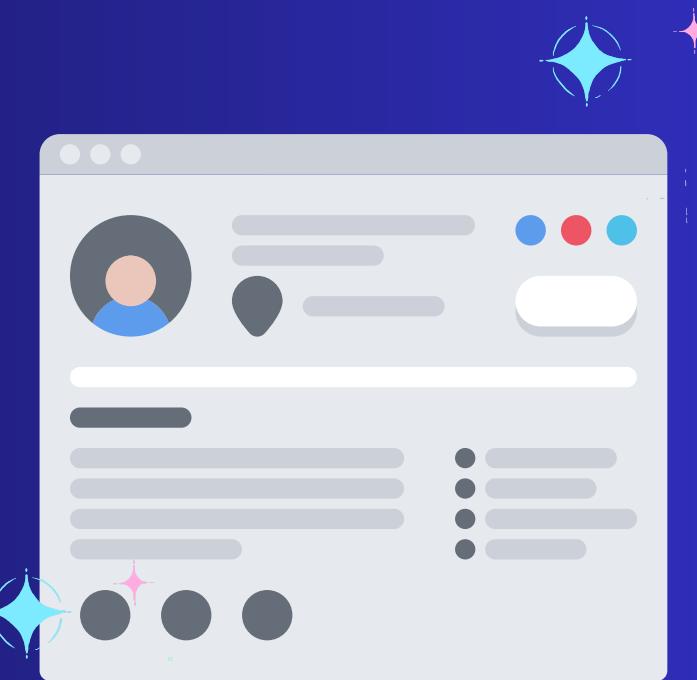
1. Professional Profile Picture and Bio:

- **Right Choice of Image:** Discuss how to select a professional picture that suits tech industry standards.
- **Bio Writing Tips:** Learn how to craft a bio that is not only informative but also engaging and optimized for search visibility within the GitHub community and beyond.
- **Contact Information Safety:** Guidelines on how to share your contact details securely, considering professional and privacy standards.



2. Custom Profile README:

- **Personal Introduction:** Start with a brief yet powerful introduction that reflects your personality and professional background.
- **Highlighting Projects and Skills:** Showcase your most impressive projects and the diverse skills they demonstrate. Use markdown to organize information effectively and make your README visually appealing.
- **Dynamic Elements:** Incorporate badges, contribution graphs, or even animated stats to make your README stand out. These elements can visually communicate your achievements and activity.
- **Linking to Achievements and External Content:** Strategically include links to your portfolio, published papers, blogs, or case studies to provide a comprehensive view of your professional landscape.





Integration Tips:



Ensure that the visual style and tone of your README are consistent with the rest of your profile for a unified and professional appearance.



Regularly update your README to reflect new achievements or projects, keeping it as current as possible to maintain its relevance and impact.



Strategic Repository Pinning



1. Introduction to Repository Pinning

- Importance of repository pinning in for job search.
- Overview of GitHub's pinning feature.



2. Criteria for Selecting Repositories

- How do you evaluate your repositories for pinning based on technical skills, complexity, relevance to the job market, and personal GitHub projects?
- Examples of impactful projects to consider, like API integrations, complex data structures, frontend designs, or full-stack applications.

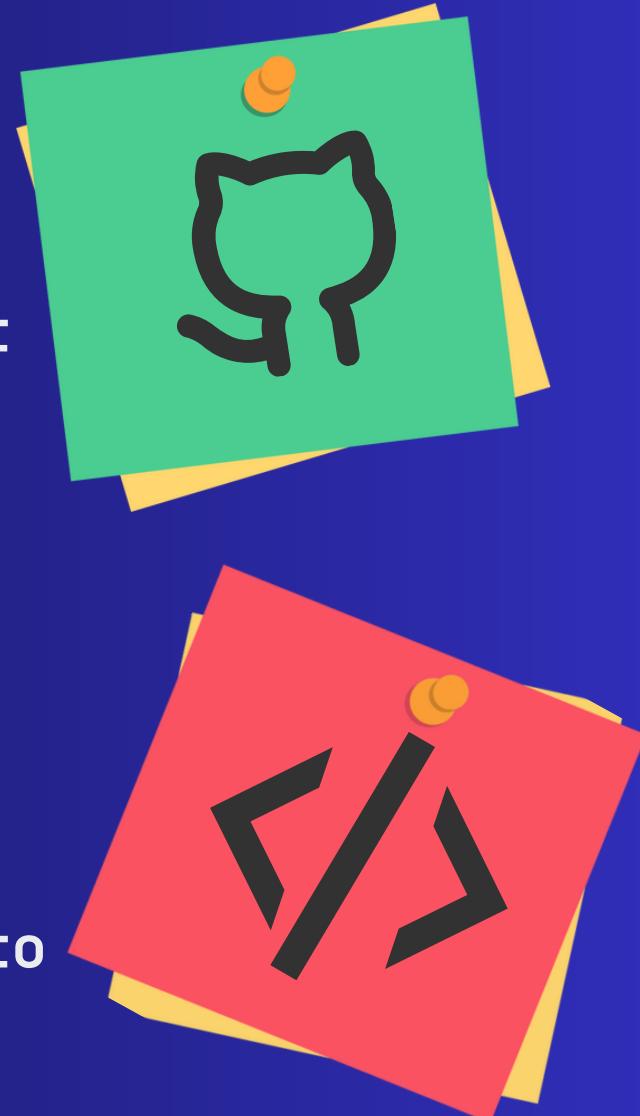


3. Enhancing Documentation

- The role of a README: What should it include to attract attention (project overview, technologies used, screenshots, installation steps, usage, and contributions)?
- Clear commenting and code structuring are important to enhance readability and maintenance.
- Additional documentation considerations include wikis, code examples, or detailed commit messages.

4. Strategic Pinning

- How to pin repositories: Technical walkthrough of pinning and rearranging pinned repositories on GitHub.
- Strategies for ordering and choosing pinned items to align with career goals and industry demands.
- Tips for regularly updating pinned repositories as you complete new projects or improve old ones.

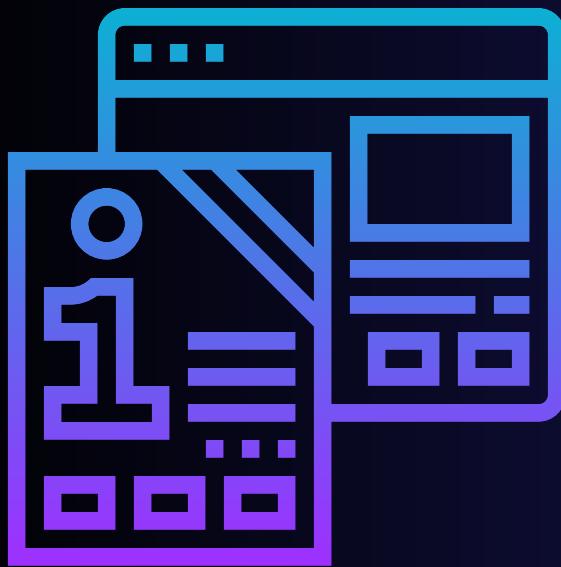


Crafting Rich README Files



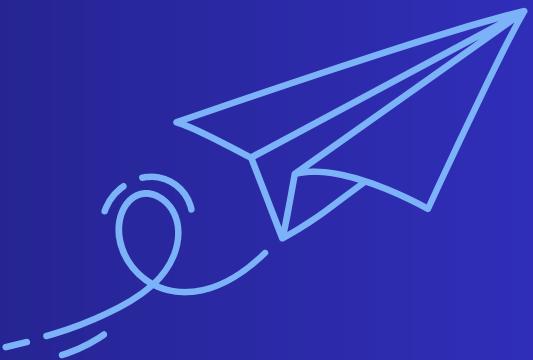


The Importance of a README
Writing Effective Project Descriptions
Incorporating Visual Aids
Clear Installation Instructions
Usage Guidelines
Guidelines for Contributors

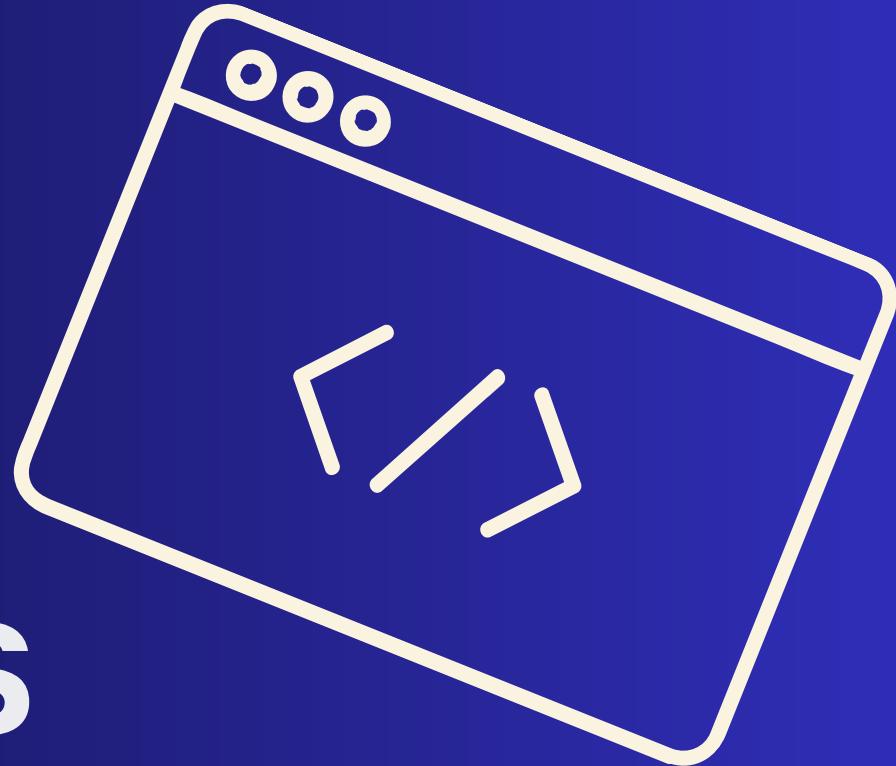


Activities and Assignments

- **Activity:** Review several exemplary README files from both small and large projects to identify key elements that make them effective.
- **Assignment:** Redraft the README file for one of your existing projects using the guidelines provided in this module. Include visual aids, comprehensive descriptions, and detailed instructions.



Developing with GitHub Pages





Introduction to GitHub Pages

Setting Up GitHub Pages

Customizing Pages with HTML/CSS/JS and Jekyll

Enhancing Visibility and Functionality

Integrating GitHub Pages into Your GitHub Profile



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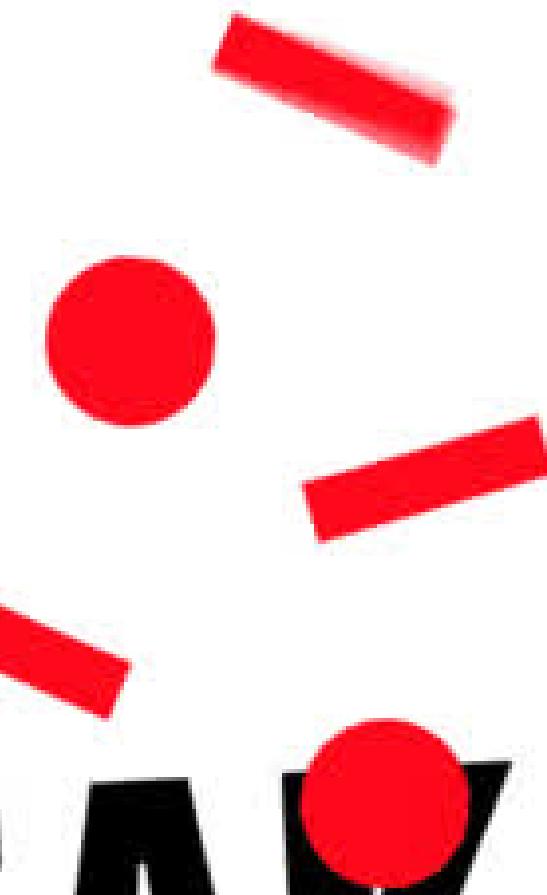
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Activities and Assignments

- **Activity:** Set up a GitHub Page using Jekyll, starting from a basic template and advancing to a fully customized site.
- **Assignment:** Convert a current project repository into a fully functional portfolio site using Jekyll on GitHub Pages, and integrate it into your GitHub profile. Bonus points for adding blog section, SEO and Google analytics.



LUNCH
BREAK



Energize Your LinkedIn Profile



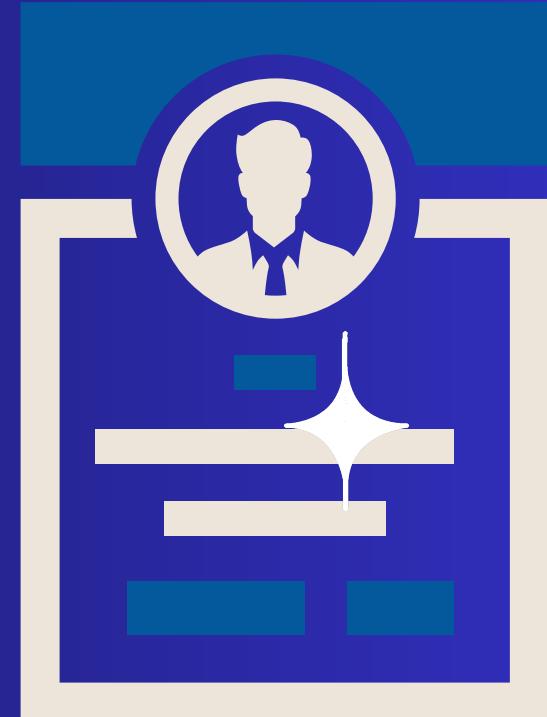
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Profile Picture and Background Photo
Compelling, Professional Headline
Engaging About Summary
Utilize Featured Section
Detailed Descriptions in Experience
Education & Specialized Trainings
Licenses and Certifications
Regularly Updated Skills and Endorsements
Request and Showcase Recommendations
Accomplishments
Reflect Your Professional Interests

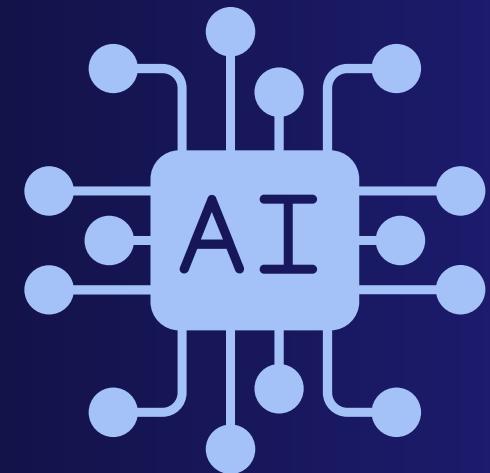




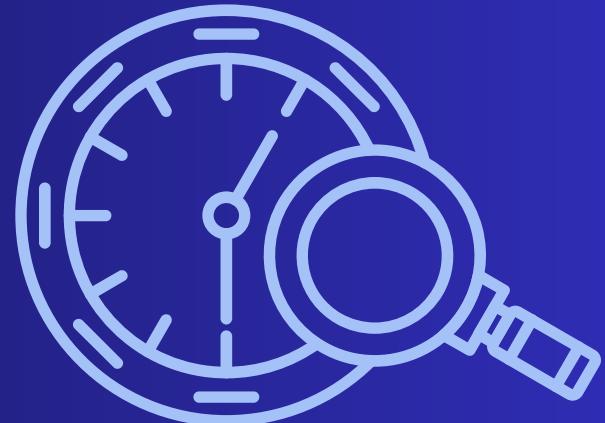
New AI-Powered Features on LinkedIn



AI-Generated
Insights



AI
Job Coach



Personalized
Career
Guidance



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Networking Strategy in the Current Market





Shift Your Focus.
Consistently Showcase Your Value.



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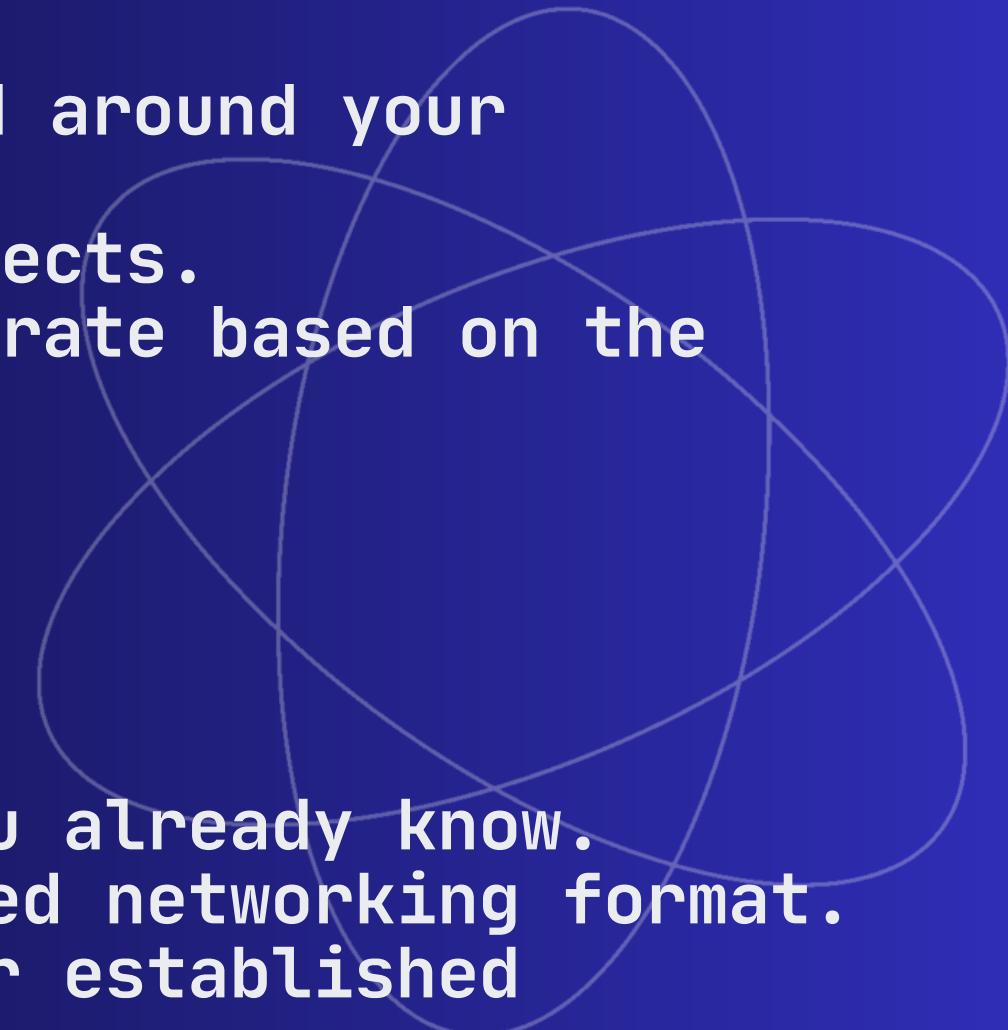
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For Junior Developers:

- Create a feedback loop centered around your products
 - Build and showcase your projects.
 - Once receiving feedback, iterate based on the feedback.
 - Keep them updated.



For Mid to Senior Developers:

- Leverage existing connections
 - Reach out to programmers you already know.
 - Transition to a product-based networking format.
 - Emphasize on leveraging your established reputation.





Key Steps for Effective Networking

Add Value Consistently

Product Feedback Loop
(Junior Developers)

Leverage Existing Connections
(Mid to Senior Developers)





Networking effectively requires more than just connections; it requires trust and credibility.

By consistently showcasing your work, seeking and acting on feedback, and keeping your network informed of your progress, you build a strong professional reputation.

This trust and credibility ensure that when opportunities arise, you'll be at the top of people's minds.





Focus on adding value and building
meaningful connections.



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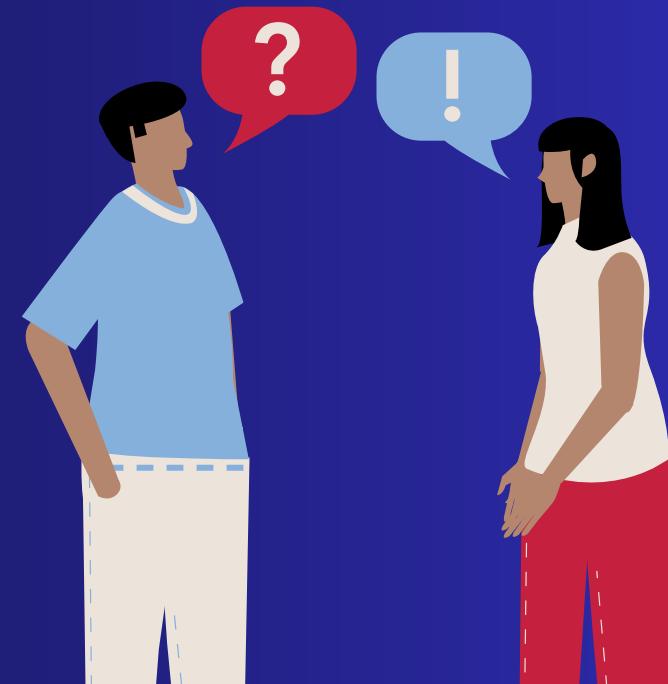
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Technical Interview Preparation

Strategies and
Company-Specific Problem Solving



Understand the Interview Process
Master Computer Science Fundamentals
Practice Coding Challenges
Develop a Study Plan
Build Projects
System Design
Continuous Learning





Example Coding Challenge Preparation

Problem: Two Sum (LeetCode #1)

Description: Given an array of integers `nums` and an integer `target`, return indices of the two numbers such that they add up to `target`.





Example Coding Challenge Preparation

Solution:

```
def two_sum(nums, target):
    num_to_index = {}
    for i, num in enumerate(nums):
        complement = target - num
        if complement in num_to_index:
            return [num_to_index[complement], i]
        num_to_index[num] = i
    return []

# Example usage:
nums = [2, 7, 11, 15]
target = 9
print(two_sum(nums, target)) # Output: [0, 1]
```





E-commerce: Search Functionality

Scenario: Improve search functionality to handle large datasets efficiently.

CS Fundamentals: Trie data structure for autocomplete.



E-commerce: Search Functionality

Solution:

```
class TrieNode:
    def __init__(self):
        self.children = {}
        self.is_end_of_word = False

class Trie:
    def __init__(self):
        self.root = TrieNode()

    def insert(self, word):
        node = self.root
        for char in word:
            if char not in node.children:
                node.children[char] = TrieNode()
            node = node.children[char]
        node.is_end_of_word = True

    def search(self, prefix):
        node = self.root
        for char in prefix:
            if char not in node.children:
                return []
            node = node.children[char]
        return self._find_words_from_node(node, prefix)

    def _find_words_from_node(self, node, prefix):
        words = []
        if node.is_end_of_word:
            words.append(prefix)
        for char, child_node in node.children.items():
            words.extend(self._find_words_from_node(child_node, prefix + char))
        return words

# Example usage:
trie = Trie()
words = ["apple", "app", "apricot", "banana"]
for word in words:
    trie.insert(word)

print(trie.search("ap")) # Output: ['apple', 'app', 'apricot']
```





Fintech: Real-Time Transaction Processing

Scenario: Process and validate real-time transactions efficiently.

CS Fundamentals: Queue data structure for handling transaction requests.

Fintech: Real-Time Transaction Processing

Solution:

```
from collections import deque

class TransactionProcessor:
    def __init__(self):
        self.queue = deque()
        self.processed_transactions = []

    def add_transaction(self, transaction):
        self.queue.append(transaction)

    def process_transactions(self):
        while self.queue:
            transaction = self.queue.popleft()
            if self.validate_transaction(transaction):
                self.processed_transactions.append(transaction)
                print(f"Processed: {transaction}")
            else:
                print(f"Invalid: {transaction}")

    def validate_transaction(self, transaction):
        # Implement validation logic
        return True

# Example usage:
processor = TransactionProcessor()
transactions = ["txn1", "txn2", "txn3"]
for txn in transactions:
    processor.add_transaction(txn)

processor.process_transactions()
```





Final Tips:

Mock Interviews

Platforms like Pramp and Interviewing.io are great for simulating real interview conditions.

Feedback

After each practice session or interview, take time to review what went well and areas for improvement.

Consistency

Regular, focused practice is key to mastering technical interviews.





By focusing on company-specific problems and relevant CS fundamentals, you can create a targeted and effective preparation strategy for technical interviews.

This approach not only helps in understanding the practical application of concepts but also demonstrates to interviewers your ability to solve real-world problems relevant to their business.





Omaze

Excelsior!

Congratulations on completing this comprehensive course on preparing you for the current market so that you can succeed!

A Matrix to plan your journey
data-driven resume enriched with relevant keywords

Github and Linkedin profile pages that showcases you and your skills

a solid networking strategy at any level

focused interview preparation tactics





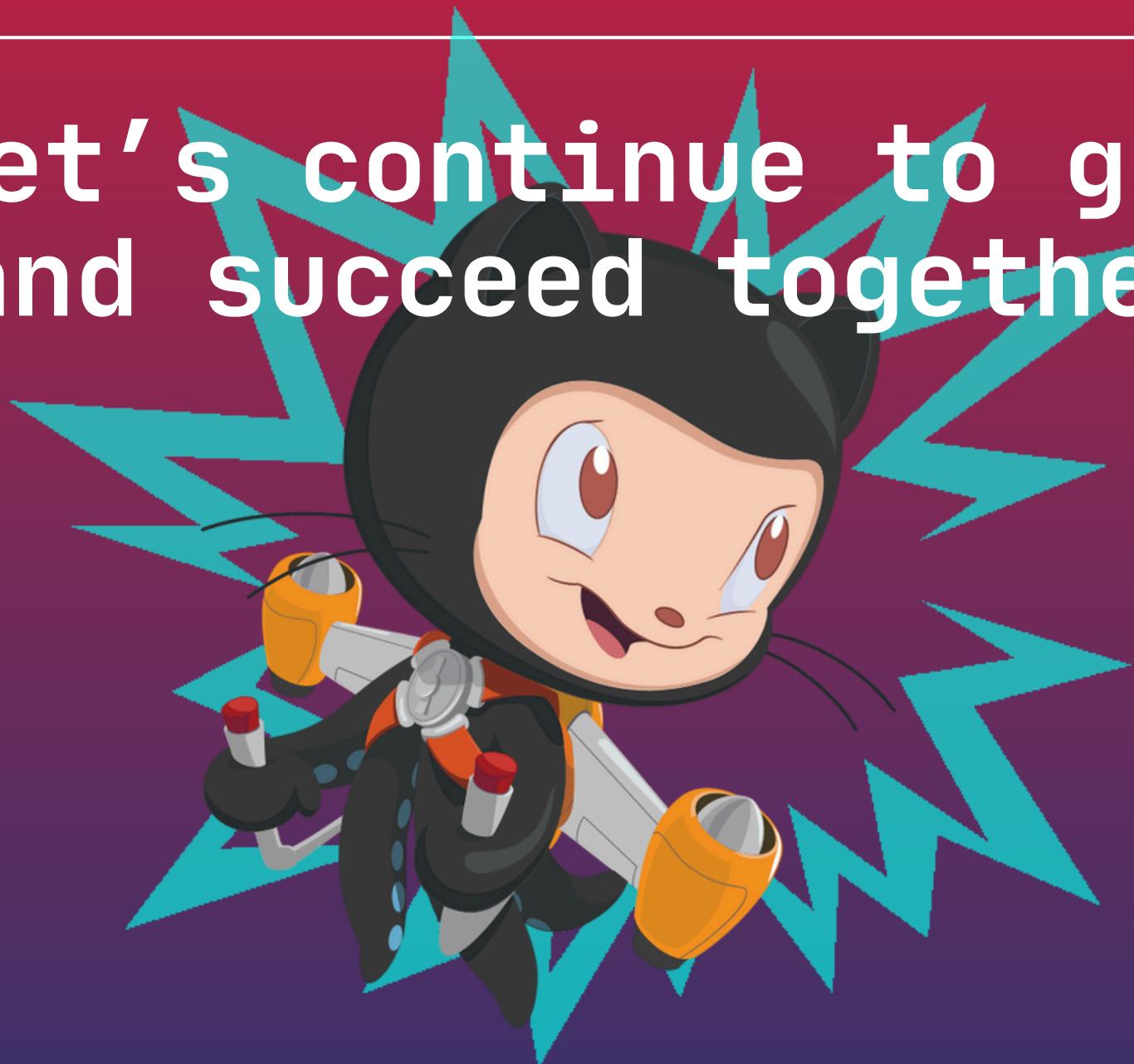
As you continue to refine your skills and expand your network, we invite you to stay connected with us and our community:

- **Support Vets Who Code:** Consider making a donation to Vets Who Code. Your contributions help us continue providing veterans with access to technical education and career opportunities in software development. Visit our website to learn more and contribute.
- **Follow Us on Social Media:** Keep up with the latest news, updates, and resources from Vets Who Code by following us on [Linkedin](#) and [Twitter](#). Engage with our posts and share your journey and accomplishments with us!
- **Explore Our [Hashflag.Shop](#):** Show your support and style with merchandise from our Hashflag shop. Every purchase helps fund our programs and support our mission.





Let's continue to grow
and succeed together!



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