

IT Systems Development Career Guide



2 Overview

We're so glad you're here

Welcome to the thrilling realm of code! Where creativity meets logic, and lines of text transform into captivating websites, powerful applications, and innovative tech solutions.

Coders and programmers are the architects of the digital world, weaving magic with every keystroke. This guide will serve as your key to unlocking the potential within this ever-evolving field, whether you're a curious beginner or a seasoned pro seeking new horizons.



Roles of a Coder/Programmer

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The world of coding offers a diverse spectrum of roles, each playing a crucial part in the grand symphony of software development. Here are some key players:

- Software Developers: The builders of dreams, translating designs and requirements into functional software applications. They write code, test functionalities, and debug issues to ensure smooth operation.
- Web Developers: The architects of the web, constructing and maintaining websites and web applications. They handle front-end (user interface) and back-end (server-side) development, weaving together design and functionality.
- Mobile Developers: The app gurus, bringing ideas to life on smartphones and tablets. They specialise in building native or cross-platform mobile applications, catering to diverse user needs across different operating systems.
- Data Scientists: The information alchemists, transforming raw data into valuable insights. They leverage coding skills to analyse data, build predictive models, and extract knowledge to inform crucial decisions.
- Game Developers: The storytellers of the digital age, crafting immersive and engaging game experiences. They combine artistic vision with programming prowess to bring virtual worlds to life.





Essential Skills for Coders/Programmers

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While the language of code may seem cryptic at first, its built on a foundation of essential skills that anyone can cultivate. Here are some key ingredients for success:

- **Logical Thinking:** Breaking down complex problems into smaller, manageable steps is crucial for writing efficient and effective code.
- **Problem-Solving:** Coding is a constant journey of tackling challenges and finding creative solutions. Embrace the thrill of the hunt and develop your analytical problem-solving skills.
- **Attention to Detail:** A single misplaced comma can have unforeseen consequences in the world of code. Meticulous attention to detail is paramount for writing accurate and reliable software.
- **Continuous Learning:** The tech landscape is ever-evolving, and so should your skillset. Be a lifelong learner, embrace new technologies, and stay updated on the latest trends in your chosen field.
- **Communication and Collaboration:** Coding is rarely a solo endeavor. Effective communication with team members, designers, and clients is essential for successful project execution.



How to Get Started

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The beauty of the coding world lies in its accessibility. There's no single, rigid path to becoming a successful coder. Here are some diverse options to consider:

- Formal Education: Pursuing a computer science degree or a related field provides a strong foundation in coding principles and theoretical knowledge.
- Bootcamps: Immersive bootcamps offer intensive training programs, equipping you with practical coding skills and preparing you for specific roles within a shorter timeframe.
- Online Courses: Countless online platforms and resources offer interactive courses and tutorials, allowing you to learn at your own pace and explore various programming languages and technologies.
- Self-Learning: The internet is your playground! With dedication and resourcefulness, you can embark on a self-directed learning journey, utilizing free tutorials, open-source projects, and online communities to hone your coding skills.

Salary Overview



South Africa per year

Junior Level

R250,000 –
R350,000

Mid-Level

R360,000 –
R600,000

Senior Level

R600,000 –
R1,200,000

Executive

R1,200,000 –
R2,000,000

Salary Overview



United States per year

Junior Level

\$40,000 -
\$55,000

Mid-Level

\$50,000 -
\$75,000

Senior Level

\$75,000 -
\$125,000

Executive

\$125,000 -
\$200,000



Do not hesitate
to contact us!

Have Any Questions?

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```
public static Point parseLocation(String locationString) {  
    Preconditions.checkNotNull(locationString, errorMessage: "Location String should not be null");  
    Preconditions.checkArgument(locationString.contains(","), errorMessage: "Location must contain a comma");  
    locationString = locationString.trim();  
  
    if (locationString.contains(" ")) {  
        locationString = locationString.replaceAll( regex: " ", replacement: ",");  
    }  
  
    if (locationString.contains(", ")) {  
        locationString = locationString.replaceAll( regex: " ", replacement: ",");  
    }  
  
    String[] location = locationString.split( regex: ",");  
    Preconditions.checkArgument( expression: location.length >= 2, errorMessage: "Location should consist at least 2 Double parameters");  
    double lat = Double.parseDouble(location[0]);  
    double lon = Double.parseDouble(location[1]);  
  
    return new Point(lat, lon);  
}
```

```
@Override  
public void indexItems(Collection<Community> communities) {  
    if (CollectionUtils.isEmpty(communities)) {  
        Collection<Community> documents = communities  
            .stream()  
            .map(community -> communityToDocumentPopulator.convert(communityToDocumentPopulator, community))  
            .collect(Collectors.toList());  
        communityRepository.saveAll(documents);  
    }  
    else {  
        log.warn("No places to index, input collection is empty.");  
    }  
  
    @Override  
public Collection<Community> search(String query) {  
    List<Community> communities = new ArrayList<>();  
    if (CollectionUtils.isEmpty(communities)) {  
        List<Community> retrievedCommunities = documents.stream().map(document -> communityService.getByDocumentId(document.getId()))  
            .collect(Collectors.toList());  
        communities.addAll(retrievedCommunities);  
    }  
    log.debug("Found {} items for search query: {}", CollectionUtils.size(communities), query.getQueryString());  
    return communities;  
}
```

