Mock Interview Guide

ENGINEERING & ARET

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Mock Interview Guide: Engineering & ARET

Engineering Job Description

Software Engineering Position

Requirements
- Currently enrolled in a post-secondary Computer Science or similar program
- Excellent communication skills in English (both written & spoken)
- Strong interpersonal and teamwork skills

Knowledge of
- Object Oriented programming languages
- Relational databases
- HTML, CSS, JavaScript, XML, JSON

Other skills that will be valuable include
- .NET 4.x/.Net Core 2.0 Frameworks
- C#, C/C++, Java, JavaScript, Python, PHP, Ruby
- SQL Server
- Web Services (REST, SOAP)
- Data modeling, database design and programming (SQL Server, Stored Procedures)

What You'll Do
- Design, develop, troubleshoot and debug software programs for enhancements and new products
- Develop software and tools in support of design, infrastructure and technology platforms, including operating systems, compilers, routers, networks, utilities, databases and Internet-related tools
- Determine hardware compatibility and/or influences on hardware design

Who You'll Work With
- Play a crucial role in driving next-gen software innovations including cloud, mobile, desktop or security spaces. You'll build applications that make technology accessible to people on a variety of devices. Imagine, design, and create solutions that have real world impact.

Who You Are

- Currently enrolled in an accredited university co-op program pursuing a bachelor's or master's degree in Computer Science, Computer/Software/Electrical Engineering, or a related major such as Math or Physics
- Minimum of a 3.0 GPA or higher
- Solid understanding of computer science fundamentals and software engineering with an aptitude for learning new technologies
- Strong knowledge of programming and scripting languages
- Possess creative problem-solving skills and excellent troubleshooting/debugging skills
- Experience in establishing and sustaining excellent relationships with the extended team
- Excellent verbal and written communication skills

Technology Innovation Position

Qualifications:

You demonstrate an interest in development and have the following attributes:

- Currently enrolled in a co-op undergraduate degree program in computer science, engineering, math, business or relevant degree
- Strong interest in developing and prototyping new products
- Demonstrated interest in technology, software, hardware, and/or user experience design
- Action oriented and enjoys work collaboratively in a dynamic environment

Technical Skills:

- iOS (Objective-C / Swift), Android (Java), or equivalent object-oriented language
- HTML5, CSS, jQuery, JavaScript
- Working understanding of algorithms
- Worked with different Database Technologies (e.g. SQL & NoSQL)
- Experience with a Mobile Platform or Web Application Framework
- Experience with Cloud Environments
- Familiar with agile/scrum
- Must be legally able to work in Canada

Engineering Interview Questions

1. Tell me about yourself.

2. Why are you interested working for this company?

3. What words would a classmate or co-worker use to describe you?

4. Tell me about a time when you made a mistake. How did you handle the situation and what did you learn from the experience?

5. What are some of the engineering language and frameworks that you are familiar with? Give examples of how you have used them.

6. Tell me about a situation when you had an especially heavy workload. What did you do?

7. Tell me about a time when you worked as part of a team in school to complete a challenging project. What role did you play, and how did the team work together to get the job done?

8. You've been assigned a major project and are halfway through when you realize that you've made a mistake that requires you to go back to the beginning to fix it. How do you handle that while still trying to make your deadline?

9. What would you do if you were asked to perform a task you've never done before?

10. What skills will you bring to this position?

11. You're working on a key project that you can't complete because you're waiting on work from a colleague. What do you do?

12. What would you do if you were working hard on a project and were almost finished when the goals or priorities were changed?

13. Where do you see yourself in 5 years?

14. Do you have experience working remotely? How do you keep yourself focused?

15. Do you have any questions?

Rubric

How You Did:	Comments:
You're Hired! - stellar resume (no grammar or typing errors) - great poise, professional dress, great eye-contact - very confident - detailed and specific answers to questions - sells skills and references previous experience - clear understanding of the organization and job description - appears very honest and easy to work with - interviewee is professional when responding - very clear and concise manner of speaking - above-average maturity - expresses a strong interest in the position -prepared well developed questions directly related to the company and the position	
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Keep Working at It! - resume feels incomplete or has errors - no poise, dress too casual or inappropriate, poor eye-contact (discuss what they should wear according to the job) - lack of confidence and inexperience is obvious - answers to questions are not convincing, relevant, or sufficient - unexplained absences from their employment history on resume - does not come across as a dependable employee - interviewee is not professional when responding - manner of speaking is unclear, jumbled or poorly worded - interviewee needs more experience and maturity - used profanity or inappropriate conversation - they did not ask any questions even though they were prompted	

ARET Job Description

Civil Engineering Position

This is an excellent opportunity at the Highway Maintenance Contracts currently performed by AIM Roads Inc. for a Civil Engineer student to further their career in a major construction company with exciting and noteworthy projects across Canada.

Responsibilities
- Working with project engineers and other project team members on drafting and design deliverables.
- Preparation of standard documentation – reports, specs, drawings, spreadsheets, etc.
- Use relevant software (e.g. MicroStation, AutoCAD, Excel, Civil 3D) in course of work.
- Use and become familiar with relevant standards covering civil and infrastructure environment.
- Assist in preparation of tender and construction documents.
- Preparation of quantity take-offs in support of cost estimating purposes.
- Opportunity for field services on construction sites, during varying day and/or night shifts.
- Provide support to Operational Team in co-ordinating and managing information distribution.

Knowledge, Skills and Abilities
- Strong desire to learn and be involved with large infrastructure projects such as highways, bridges, tunnels, geometric layout, and pavement design.
- Strong communication skills, both written and verbal are essential.
- Basic knowledge of AutoCAD, Civil 3D, and MicroStation.

Special Conditions
- Individuals may be required to travel within Canada and elsewhere as directed.
- Positions hence individuals may be subject to relocation to projects and offices within Canada and elsewhere according to the company's resource requirements.

Experience/Qualifications
- Civil Engineering student.
- Basic understanding of civil and infrastructure projects would be an asset.

Building CAD Modeling Specialist and Marketing Researcher

Scope and Anticipated Activities
- MAZDIS is seeking a talented and creative Building CAD Modeling Specialist and Marketing Researcher to join our Tech Team in Vancouver to create practical planning guides for our Secure Automated Bicycle Parking Solutions (SABPS). SABPS is a dynamic metal structure with a few similarities to elevators. It is ultimately installed in a shaft within a building envelope or a standalone below or above grade structure. Practical planning guides consist of spec-sheets, cut-sheets, configurations, alignments, etc.; in other words, an easy-to-use tool and informative booklet to support urban development project design teams (architects, general contractors, and other design stakeholders) throughout the design phase. This document will make the job and engagement of the design team much easier when a MAZDIS SABPS bicycle parking system is going to be incorporated into a project.
- The successful candidate is a driven, quick learner and technically inclined person who is a strong visual communicator and who is keen to make a significant contribution to the industry. A background in architecture, building science, BIM or any related science with sufficient experience in research and visual communication is required. This role works with the Tech Team, Fab Team and BizDev Team under the direct supervision of the director of the company. If you are a self-starter who enjoys working in a fast-paced environment and values exceptional customer service, please apply today! Career opportunities offer creative challenges to learn and develop new skills and experiences.

Responsibilities
- Study and understand MAZDIS technologies and SABPS solutions.
- Target, Reach out to on architectural, general contracting, and development firms to research and learn their design phase procedure.
- Identify and learn the industry-standard for urban development projects in North America and Europe.
- Discuss the findings with our Technical and BizDev Teams and progressively write reports and record the results.
- Develop and prepare supporting drawings and materials from technical drawings based on the findings.
- Coordinate with Tech Team and BizDev Team to develop product-specific processes for creating 3D information for the purpose of architectural design and layout.
- Research into how current designs relate to applicable standards; perform system modelling that is installable and relevant to meet code requirements.
- Attend meetings as required to support the engineering team.
- Participate in our company's operational meetings, as required.

Requirements
- Must have a background in architecture, building science, BIM or any related science with sufficient experience or exposure to high-rise projects.
- You have strong spatial thinking and computer drafting (AutoCAD and preferably Revit) skills to produce effective drawings and develop concepts.
- Must have the ability to communicate effectively through graphics and text.
- Must demonstrate an understanding of quality standards relative to specification design, planning, and engineering fundamentals and principles.
- You pride yourself on your interpersonal, communication, and problem-solving skills.
- You must have great research and client outreach skills with minimum supervision.
- Must be aware of engineering design principles and procedures.

Impact and desired outcomes
- People around the world began using bicycles more often for their commute over the past two decades. It is growing so fast that cycling has become one of the main modes of transportation in most countries. Having the experience of living in the Netherlands, the leading nation for commute cycling, during the early 2000s, the founder of MAZDIS has foreseen the problems that cyclists, local governments and property owners are going to face in the future. This was the foundation to start MAZDIS by addressing the main problem of commute cycling which is secure and space-efficient bicycle parking solutions.
- We have this challenge along our path to market, like any company with disruptive new technologies, to make it easier for our clients to adopt our product.

Deliverables
- You must deliver a practical planning guide/manual of the SABPS bicycle parking system for architectural firms, which will be published on our website. We also would like to receive a report or an engagement plan that will be absorbed in the company procedures and guidelines for future development.
- We prefer to see the deliverables progressively during the term of engagement of the candidate. The final report should consist of an abstract report (a quick 2-pager guideline) and a comprehensive report in word file along with a PowerPoint presentation.
- If the report included drawings and images, we need the original files to be delivered as well.

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5. Tell me about a situation when you had an especially heavy workload. What did you do?

6. Tell me about a time when you worked as part of a team to complete a challenging project. What role did you play?

7. What project or task have you finished that you are most proud of so far?

8. What skills will you bring to this position?

9. What would you do if you were asked to perform a task you've never done before?

10. Describe the steps you would take when developing samples and drafts for a project.

11. You're working on a key project that you can't complete because you're waiting on work from a colleague. What do you do?

12. What would you do if you were working hard on a project and were almost finished when the goals or priorities were changed?

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