# **SDE II, Route Planning**

Job ID: 2912535 | Amazon.com Services LLC

### **DESCRIPTION**

Route Planning team is at the heart of our growing logistics network in Last Mile at Amazon. We're challenged to constantly improve and innovate on our routing services and tools to better support fast delivery to customers. We are looking for a Software Development Engineer with exceptional technical skills and a passion for delivering great software to join our team. We have among the most complex logistics problems in the industry, including large, capacitive, commingled, and time window adherence routing problems. We dispatch thousands of drivers a day to carry millions of packages to our customers.

Parcel delivery strategies have objectives that can often compete with one another. Most notably, ideal on-road and in-station

processes may be incompatible; moreover, optimizing for the "happy path" leads to operational realities that are not resilient to failure (which are common during peak delivery times). In this role, you will create globally optimal route plans amidst these opposing forces. Vehicle routing touches sortation, containerization, picking, and dispatch. You will work at the intersection of these to build a plan that is efficient, fair, and executable. You will learn about optimization, routing algorithms, and building tools for operators to be successful each and every day around the globe. You will work with research scientists, senior engineers and product managers in a fast paced and growing environment, where ideas are prototyped, tested, and implemented.

#### Key job responsibilities

This is a great opportunity to be part of a complex problem space, be part of a fun, but competitive group of peers, leverage the core-engineering skills, and nurture the out of box thinking that's engrained in your DNA.

The routing team is at the heart of our growing logistics network in Last Mile at Amazon. We're challenged to constantly improve and innovate on our vehicle routing software and tools to better support fast delivery to customers. We are looking for SDEs with exceptional technical skills and a passion for delivering great software to join our team. We have among the most complex vehicle routing problems in the industry, including large, capacitive, commingled, and time windowed routing problems. We dispatch thousands of drivers a day to carry millions of packages to our customers. In this role, you will create globally optimal route plans amidst these opposing forces in Parcel delivery strategies have objectives that can often compete with one another. Vehicle routing touches sortation, containerization, picking, and dispatch. You will work at the intersection of these to build a plan that is efficient, fair, and executable.

You will learn about optimization, routing algorithms, and building tools for operators to be successful each and every day around the globe. You will work with Sr Principal/Principal/Sr research scientists, Principal/Sr engineers, and product managers in a fast paced and growing environment, where ideas are prototyped, tested, and implemented. You will get opportunities to work on core Algorithms (truly Algorithms, not just software wrapping algorithms), Distributed systems and Scalable architecture. We primarily develop on NAWS and are actively moving all our services to NAWS rapidly – we want our engineers to work on tech that are fungible across the industry.

#### About the team

The Routing Platform team has four pillars: 1) building reusable components and maintaining workflows responsible for input collection for different businesses as well as the external APIs for Route Planning, 2) hosting the optimization algorithms to solve the Vehicle Routing Problem, 3) managing route lifecycle inclusive of providing a source of truth for route status and tracking route state changes, 4) managing core routing frameworks and providing simulation capabilities for all systems. Software Engineers work across across two or more of the Routing Platform teams as well as across organizations. Due to the criticality of the owned systems, we collaborate closely with multiple Principal Engineers within the broader organization. This position will focus primarily on building reusable components and workflow responsible for input collection.

### **BASIC QUALIFICATIONS**

- 3+ years of non-internship professional software development experience
- 2+ years of non-internship design or architecture (design patterns, reliability and scaling) of new and existing systems experience
- Experience programming with at least one software programming language

## PREFERRED QUALIFICATIONS

- 3+ years of full software development life cycle, including coding standards, code reviews, source control management, build processes, testing, and operations experience
- Bachelor's degree in computer science or equivalent

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Our compensation reflects the cost of labor across several US geographic markets. The base pay for this position ranges from \$129,300/year in our lowest geographic market up to \$223,600/year in our highest geographic market. Pay is based on a number of factors including market location and may vary depending on job-related knowledge, skills, and experience. Amazon is a total compensation company. Dependent on the position offered, equity, sign-on payments, and other forms of compensation may be provided as part of a total compensation package, in addition to a full range of medical, financial, and/or other benefits. For more information, please visit <a href="https://www.aboutamazon.com/workplace/employee-benefits">https://www.aboutamazon.com/workplace/employee-benefits</a>. This position will remain posted until filled. Applicants should apply via our internal or external career site.











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