d.   Resolution No. 24-2943 – IT Position Reclassification – Artificial Intelligence Solutions Architect

TRANSMITTAL MEMORANDUM

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TO: The Honorable Mayor & City Council   Initials:

FROM: Delilah A. Walsh, City Manager   File #:   MGR24-625

DATE: September 26, 2024   Mtg. #:   10/03/24 CAd

RE: **Resolution No. 24-2943 Artificial Intelligence Solutions Architect**

The motion detailed below was prepared at the request of Information Technology Director Brock Hecla and Human Resources Manager Jason Alderson, who asked that it be placed before the City Council for consideration at its meeting of October 3, 2024. If adopted, the motion approves Resolution № 24-2943, which amends the City of Ketchikan compensation plan to provide for the classification of the position of Artificial Intelligence Solutions Architect; and establishes an effective date. The position is a reclassification of the existing Senior Programmer/Analyst position; this change preserves the current duties of the Senior Programmer and is intended to better align the position with the evolving technological landscape and position the City for future growth and efficiency.

As technology continues to advance rapidly, the role of IT professionals has become increasingly complex. The introduction of AI and Machine Learning (ML) tools presents significant opportunities for improving city operations.

The reclassification of the Senior Programmer/Analyst to an AI Solutions Architect will enable the City to leverage AI and ML technologies to streamline data analysis, decision-making, and process automation, improve the management of city infrastructure through predictive maintenance, enhance operational efficiency and reduce the need for additional full-time employees and ensure that the City's data remains secure and controlled internally.

The reclassification is at a higher pay grade, which is necessary to attract a qualified candidate. As this change will retain the work of the Senior Programmer, position the City for future success, and better serve the needs of our community, it is a reclassification and not an additional FTE, and the pay change will not be budgeted until FY25, I concur with Mr. Hecla and Mr. Alderson and their recommendation.

A motion has been prepared for City Council consideration.

Recommended Motion: I move the City Council approve Resolution № 24-2943, amending the City of Ketchikan compensation plan to provide for the classification of the position of Artificial Intelligence Solutions Architect; and establishing an effective date.

Memo

To: Delilah Walsh, City/General Manager

From: Jason Alderson, Human Resources Manager

Date: August 13, 2024

Re: **Artificial Intelligence Solutions Architect**

At the request of Brock Hecla, Information Technology Director, I was tasked with creating a job description and salary recommendation for the reclassification of the division's Senior Programmer/Analyst to an Artificial Intelligence Solutions Architect. This change is essential to ensure that our city remains at the forefront of technological advancements and continues to deliver efficient, innovative services to our residents. The following presents an overview of the request, analysis and the resulting recommendation. A copy of the new job description is attached.

Overview

Under direction of the Information Technology Director, provides artificial intelligence (AI) and machine learning (ML) solutions and systems architecture support for the Information Technology Department; designs, develops, tests, analyzes, and maintains AI-driven applications to support business requirements; creates and implements machine learning models, conducts data analysis, and automates business processes; and researches, designs, documents, and modifies AI specifications throughout the production life cycle. The Information Technology Department provides efficient and effective technology services to all the departments of the City and Ketchikan Public Utilities. The Artificial Intelligence Solutions Architect ensures thorough analysis, robust architecture design, and proper implementation of AI, ML and automation systems, and assists users in leveraging AI technologies to meet the goals of the Information Technology Department. The AI Solutions Architect must perform these duties in a manner that reflects positively on the City and the Department and is responsible for maintaining a level of professional expertise and image that promotes efficient use of the resources available to the Department.

Recommendation

Based on the above, it is recommended that this new position be classified as an Artificial Intelligence Solutions Architect and the salary level be set at Grade 772, which has an annual wage range of $91,551.60 - $123,306.96. This recommendation places the Artificial Intelligence Solutions Architect within a competitive pay range with other locations within Alaska.

MEMORANDUM
CITY OF KETCHIKAN, ALASKA
Information Technology Department

Brock Hecla, IT Director
Phone: (907) 228-5647
brockhecla@ketchikan.gov

TO: Delilah Walsh, City Manager

FROM: Brock Hecla, Information Technology Director

DATE: September 18th, 2024

SUBJECT: Reclassification of Senior Programmer/Analyst to Artificial Intelligence Solutions Architect

As we continue to evolve and expand our technological capabilities, it is essential that our positions within the IT department reflect the growing demands and future trends of the industry. With that in mind, I am recommending the reclassification of the existing "Senior Programmer/Analyst" position to an "Artificial Intelligence (AI) Solutions Architect."

Programming and technology are continually advancing, and AI and Machine Learning (ML) tools are rapidly becoming integral components of modern operations. Over the next decade, I see AI and ML playing a significant role in how we approach programming and system development, even in small towns like Ketchikan. By reclassifying this position, we will be better equipped to introduce these emerging tools and capabilities into the city's operations in a controlled and secure manner that meets our unique local needs.

This shift will allow us to streamline various city operations, including:

• Data Analysis and Decision-Making: AI can be applied to existing data, such as budget tracking, utility management, and citizen requests, to generate faster, more accurate insights. This will support city management in making data-driven decisions that improve services and resource allocation in line with Ketchikan's needs.
• Process Automation: AI and ML can assist in automating routine administrative tasks, such as utility billing, permit processing, and document management. This will reduce the burden on staff, especially in our smaller departments, while shortening the time required to complete these tasks, resulting in more efficient service delivery to our residents.
• Predictive Maintenance for City Infrastructure: AI-driven predictive models can enhance the management of local infrastructure, such as water and sewer systems, by identifying potential issues early, helping reduce maintenance costs and avoid disruptions.

The goal of this reclassification is not to replace current employees but to optimize internal processes, easing workloads, and allowing staff to focus on higher-priority tasks. By improving operational efficiencies, this can also help delay or reduce the need for additional full-time employees (FTEs) in the future, which is crucial given Ketchikan's smaller population and limited budget.

This approach ensures that our data remains secure and controlled internally, while leveraging emerging technologies to enhance productivity and responsiveness. The AI Solutions Architect will be responsible for implementing these technologies in a manner that is appropriate for Ketchikan's unique needs, ensuring they are aligned with our City's and community's goals.

By taking this step, the City can continue to adapt to new technologies while maintaining the close-knit, personalized service that our residents expect. This will ensure that our city remains efficient, forward-looking, and capable of serving our community's needs well into the future.

I look forward to your support in moving this request forward and am happy to discuss any further details or provide additional information as needed.

_____
Brock Hecla , IT Director

Approved ☐   Denied ☐

Comments:

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Delilah Walsh , City Manager

ARTIFICIAL INTELLIGENCE SOLUTIONS ARCHITECT

*Class specifications are intended to present a descriptive list of the range of duties performed by employees in the class. Specifications are **not** intended to reflect all duties performed within the job.*

SUMMARY DESCRIPTION

Under direction, provides artificial intelligence (AI) and machine learning (ML) solutions and systems architecture support for the Information Technology Department; designs, develops, tests, analyzes, and maintains AI-driven applications to support business requirements; creates and implements machine learning models, conducts data analysis, and automates business processes; and researches, designs, documents, and modifies AI specifications throughout the production life cycle.

The Information Technology Department provides efficient and effective technology services to all the departments of the City and Ketchikan Public Utilities. The Artificial Intelligence Solutions Architect ensures thorough analysis, robust architecture design, and proper implementation of AI, ML and automation systems, and assists users in leveraging AI technologies to meet the goals of the Information Technology Division. The AI Solutions Architect must perform these duties in a manner that reflects positively on the City and the Department, and is responsible for maintaining a level of professional expertise and image that promotes efficient use of the resources available to the Department.

REPRESENTATIVE DUTIES
The following duties are typical for this classification. Incumbents may not perform all of the listed duties and/or may be required to perform additional or different duties from those set forth below to address business needs and changing business practices.

1. Collaborates with departments to integrate AI and ML solutions into existing systems, ensuring scalability, performance, and accuracy.

2. Works with departments to analyze contemporary needs and implement technology to streamline job processes and make better use of available systems along with new and emerging AI and ML technology.

3. Designs, develops, writes, and/or rewrites AI and ML algorithms and models to enhance system capabilities and automate complex processes.

4. Collaborates with developers, programmers, and users in conceptualizing and development of new software programs and applications; maintains existing systems to provide accurate and uninterrupted service to users and the public.

5. Designs, develops, writes and/or rewrites programming scripts to enhance functionality and/or performance of company applications as necessary; writes, translates, and codes software programs and applications according to specifications.

6. Evaluates current city systems and find ways to improve system functions so that they are more accurate, time saving, and easier for users to use.

7. Serves as liaison with system administrators, end users, and third-party vendors to assist in resolving problems with software products or company software systems.

8. Assists in the definition, development, and documentation of program requirements, objectives, and specifications on a project-by-project basis in collaboration with internal users and departments.

9. Assists in defining software development project plans, including scoping, scheduling, and implementation.

10. Researches, identifies, analyzes, and fulfills requirements of internal and external program users.

11. Creates new or updates existing programs, queries, or reports requested by end users for assigned information systems.

12. Designs, develops, writes, and/or rewrites application interfaces to provide access and use of various IT, AI and ML software systems.

13. Designs, runs, and monitors software tests on new and existing programs for the purposes of correcting errors, isolating areas for improvement, and general debugging.

14. Administers critical analysis of test results and delivers solutions to problem areas.

15. Participates in user training for a variety of programs; assists in developing user manuals and guidelines.

16. Continuously monitors and refines AI and ML models to adapt to changing data and business needs and stays updated with the latest advancements in the field to implement cutting-edge techniques.

17. Provides documentation and technical support for AI and ML systems to ensure comprehensive understanding and effective use by all stakeholders.

18. Conducts research on emerging application development software products, languages, and standards in support of procurement and development efforts.

19. Serves as liaison with vendors for efficient implementation of new software products or systems and for resolution of any adaptation issues.

20. Attends and participates in professional group meetings; stays abreast of new trends and innovations in the field of information systems, AI and ML.

21. Serves as acting Information Technology Director in their absence.

22. Performs related duties as required.

QUALIFICATIONS
The following generally describes the knowledge and ability required to enter the job and/or be learned within a short period of time in order to successfully perform the assigned duties.

Knowledge of:
Contemporary artificial intelligence and machine learning design and development principals and practical application for an enterprise environment.
Modern programming languages (e.g., Python, Java, C++,MS SQL, HTML) and their applications across diverse systems.
Principles of systems analysis and design.
Web development and web UI development fundamentals.
Advanced computer science theories and practical applications.
Best practices in coding and software development.
Development and implementation of artificial intelligence and machine learning solutions for business process streamlining and automation.
Data privacy practices and compliance with relevant laws.
Personal computer hardware and software components.
Methods and techniques used in the installation, troubleshooting, and maintenance of advanced software applications.
Methods and techniques of programming, data processing, and programming documentation.
Methods and techniques of software development.
Operating systems for mainframes, servers, and workstations (e.g., Windows, Linux, macOS).

Business communication, including writing professional letters and preparing reports.
Federal, state, and local laws, codes, and regulations relevant to the field.

Ability to:

Identify and leverage opportunities for process automation and streamlining through the design, implementation and use of artificial intelligence and machine learning technologies.
Develop and support machine learning and AI-driven software and systems.
Implement advanced machine learning algorithms and artificial intelligence models in production environments.
Leverage cloud-based AI services and frameworks (e.g., TensorFlow, PyTorch) to streamline development processes.
Continuously monitor and enhance AI systems to ensure alignment with business objectives and performance metrics.
Lead artificial intelligence and machine learning driven projects, ensuring they align with organizational goals.
Collaborate with data specialists to translate business requirements into technical solutions.
Optimize artificial intelligence and machine learning models to enhance performance, scalability, and accuracy.
Design, develop, test, deploy, and maintain sophisticated computer application systems.
Identify, evaluate, and resolve complex system and programming challenges.
Conduct data analysis to determine system requirements and develop logical, effective solutions.
Design, implement, and maintain advanced databases.
Provide expert assistance to users and staff in troubleshooting software system issues.
Present and articulate technical information clearly to non-technical stakeholders.
Work autonomously with minimal supervision.
Accurately follow and execute oral and written instructions.
Conduct user interviews to gather insights on functionality, interface, and usability issues.
Communicate effectively in written, oral, and interpersonal formats.
Adapt to evolving technologies and rapidly acquire knowledge of new systems and equipment.
Efficiently prioritize and execute tasks in high-pressure environments.
Establish and maintain effective professional relationships with colleagues and stakeholders.

Education and Experience Guidelines - *Any combination of education and experience that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:*

Education/Training:
A bachelor's degree from an accredited college or university with major course work in computer science, Artificial Intelligence, Machine Learning, information systems or a related field.

Experience:
Five years of related AI and ML programming experience.

PHYSICAL DEMANDS AND WORKING ENVIRONMENT
The conditions herein are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential job functions.

Environment: Work is performed primarily in a standard office environment with some travel to different sites; incumbents may be required to work extended hours including evenings and weekends. Interacts with other municipal employees and other local government agencies. Interacts with vendors on technical support and software issues.

Physical: Primary functions require sufficient physical ability and mobility to work in an office setting; to stand or sit for prolonged periods of time; to occasionally stoop, bend, kneel, crouch, reach, and twist; to lift, carry, push, and/or pull light to moderate amounts of weight; to operate office equipment requiring

repetitive hand movement and fine coordination including use of a computer keyboard; and to verbally communicate to exchange information.

Vision: See in the normal visual range with or without correction.

Hearing: Hear in the normal audio range with or without correction.

Grade:
Union: No
FLSA: Exempt
Date Approved:
Date Amended:
Date Amended:
Date Reviewed:

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Human Resources Manager Approval

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City Manager Approval

CITY OF KETCHIKAN, ALASKA

RESOLUTION NO. 24-2943

A RESOLUTION OF COUNCIL OF THE CITY OF KETCHIKAN, ALASKA AMENDING THE CITY OF KETCHIKAN COMPENSATION PLAN TO PROVIDE FOR THE RECLASSIFICATION OF THE POSITION OF SENIOR PROGRAMMER/ANALYST TO ARTIFICIAL INTELLIGENCE SOLUTIONS ARCHITECT; AND ESTABLISHING AN EFFECTIVE DATE

WHEREAS, the Council of the City of Ketchikan, Alaska desires to amend the City Compensation Plan to better address the needs of the City of Ketchikan; and

WHEREAS, the City Council desires to provide for the reclassification of the position of Senior Programmer/Analyst to an Artificial Intelligence Solutions Architect at salary grade 7-72 of the City Compensation Plan;

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Ketchikan, Alaska as follows:

Section 1. That the Compensation Plan is amended to reclassify the position of Senior Programmer/Analyst to an Artificial Intelligence Solutions Architect at salary grade 7-72 of the City Compensation Plan.

Section 2. This resolution shall be effective immediately upon adoption.

PASSED AND APPROVED this 3rd day of October 2024.

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Dave Kiffer, Mayor

ATTEST:

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Kim Stanker, City Clerk