

February 2025

Title: Internship in AI Tools for Software Development Support

Bureau/Dept/Unit: BR/IAP/SAS

Supervision: Senior Software Engineer (P4)

Duration: 6 to 11 months maximum

Location: ITU Headquarters, Geneva, Switzerland

ITU is the United Nations specialized agency for information and communication technologies – ICTs.

We allocate global radio spectrum and satellite orbits, develop the technical standards that ensure networks and technologies seamlessly interconnect, and strive to improve access to ICTs to underserved communities worldwide.

ITU is committed to connecting all the world's people – wherever they live and whatever their means. Through our work, we protect and support everyone's fundamental right to communicate.

Today, ICTs underpin everything we do. They help manage and control emergency services, water supplies, power networks and food distribution chains. They support health care, education, government services, financial markets, transportation systems, e-commerce platforms and environmental management. And they allow people to communicate with colleagues, friends and family anytime, and almost anywhere.

With the help of our global membership, ITU brings the benefits of modern communication technologies to people everywhere in an efficient, safe, easy and affordable manner.

ITU membership reads like a Who's Who of the ICT sector. We're unique among UN agencies in having both public and private sector membership. So in addition to our 193 Member States, ITU membership includes ICT regulators, many leading academic institutions and some 700 tech companies.

In an increasingly interconnected world, ITU is the single global organization embracing all players in this dynamic and fast-growing sector.

1. **Organizational Unit**:

HRMD will enter the Bureau or SG/Department mandate – *Please indicate the acronyms:* ***BR/IAP/SAS***

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| 1. **Organizational context:** (Describe the organizational setting of the post and the purpose of the post as well as any supervision given or received)   The Informatics, Administration, and Publication Department (IAP) produces and maintains custom software to support the BR’s mission in implementing the Radio Regulations, Regional Radiocommunication Agreements, and the Rules of Procedure.  The department would like to adopt new AI-assisted software development methods and currently has two Senior Software Engineers knowledgeable and experienced in AI. The internship would take place under the supervision of one of the engineers and in collaboration with the other engineer. |

## **Terms of Reference / Internship Objective:**

Under the supervision of a Senior Software Engineer (P4), the Intern will:

Assist the Senior Software Engineers in selecting, configuring, and prototyping open-source AI tools for supporting the software development process, such as:

* Tools for AI-Powered Code Completion and Generation, and/or
* Tools for AI-Driven Code Analysis and Bug Detection, and/or
* AI tools for Testing and Debugging

1. **Competencies**

**Technical Competencies**

The following technical competencies are desirable but not eliminatory:

1. Programming Proficiency: Languages: Python, R, Java, or C++. Libraries: TensorFlow, PyTorch, Scikit-learn, or similar.

2. Data Handling Experience: Database design, SQL, NoSQL.

3. Machine Learning Fundamentals: Algorithms: linear regression, decision trees, etc. Deep Learning: Understanding deep learning frameworks and neural networks.

4. Mathematical and Statistics: Math: Linear algebra, calculus, and probability. Statistics: Statistical concepts for data analysis and model evaluation.

5. Problem-Solving and Analytical Skills: Critical Thinking and Attention to Detail.

6. Software Development Practices: Version Control: Git. Cloud Computing: Familiarity with cloud platforms like AWS or Google Cloud.

1. **Qualifications required**
2. **Education**:

Studies in computer science, engineering, mathematics, physics or a related field.

1. **Work experience**:

No work experience is required.

1. **Languages:**  
   English or French at advanced level
2. **Training and Learning Elements:**

The intern will acquire excellent knowledge and experience in configuring and using open-source AI tools to support the software development process, applied to:

* AI-Powered Code Completion and Generation, and/or
* AI-Driven Code Analysis and Bug Detection, and/or
* AI for Testing and Debugging