Scientist, Machine Learning/NLP

at Charles River Analytics (View all jobs)

Cambridge, MA

At Charles River Analytics, we develop leading-edge solutions and technology to address the world's most complex challenges. Our team of innovative entrepreneurs drives advancements in AI, robotics, smart sensing, and human-centered computing. Our research and development efforts not only propel government programs forward but also unlock new opportunities in the commercial sector. As a 100% employee-owned company, we foster a culture of participation, innovation, and accountability among our staff. We take immense pride in our ability to attract and retain the industry's most talented and creative problem solvers.

We have an exciting opportunity for an enthusiastic machine learning expert with a strong interest and research experience in deep learning for natural language processing (NLP) to work on applied NLP research solving real operational problems for the US Government and commercial customers.

Example projects you may work on include:

- Developing information extraction tools for extracting key information from reports, academic papers, or system descriptions

- Developing systems that extract key information from news stories or press releases written in several different languages

- Developing tools to detect sentiment toward specific entities in written communications

You will fine-tune pre-trained large language models (including speech models) or train custom language models from scratch on our GPU cluster. You will develop innovative deep-learning techniques to support specific applications. You will work in small project-oriented research groups led by a Principal Investigator and supported by other scientists and software engineers. You will perform scientific research and rapid prototyping. You will also have the opportunity to contribute to published research. At Charles River Analytics, we foster an environment where scientists are free to pursue their own research interests as well as work in highly collaborative teams.

A typical day looks like:

- Train large and small language models for NLP applications

- Combine traditional ML and NLP techniques, such as clustering and dependency parsing, with LLMs to create innovative hybrid systems

- Design and implement software prototypes and tools

- Contribute to reports and papers describing your research

- Formulate new ideas and contribute to methods for new research projects

To be successful in this role, you will need:

- Master's degree in Computer Science (or closely related field) with emphasis on deep learning for NLP

- Interest in applied NLP research, including information extraction, natural language generation, and speech understanding

- The ability to keep up to date with the rapidly changing field of NLP, including following cutting-edge research, model development, and industry trends

- Strong interest in, and aptitude for, software development, including strong skills in Python programming

- Ability to communicate effectively in written and oral form (writing samples may be requested), as well as ability to work independently and with a team

- This position requires enthusiasm and energy coupled with the ability to adapt under pressure

- Candidates must be able to take direction and initiative, and understand when to apply each

- Ability to work onsite 3x per week (60% onsite / 40% remote) in Cambridge, MA

- US Citizenship

Ideally, we'd like to see:

- A fundamental and practical understanding of Deep Neural Networks and the Transformer architecture

- Experience with NLP tasks, such as named entity extraction, named entity resolution, relationship extraction, classification, embeddings, and natural language generation

- Experience with NLP technologies, open source tools, machine learning, and/or probabilistic reasoning

- Experience with software development processes, projects, and teams

Why CRA?

Charles River Analytics is a 100% employee-owned company that thrives on collaboration and values each team member. We provide competitive compensation including profit sharing, bonuses, and an attractive benefits package. Our comprehensive benefits include 100% employer-paid medical and dental insurance, as well as vision, life, and disability insurance. We offer generous paid time off, paid maternity/paternity leave, tuition reimbursement, a monthly gym allowance, and a casual work environment. We have free parking on site and are conveniently accessible by public transportation. At Charles River, we prioritize and truly value work-life balance, including our offer of a flexible hybrid schedule (60% onsite / 40% remote). Join our team of employee-owners to solve important problems—for our military, our homeland, our society, and our planet.