Insight AI Program

Program Overview and Interview Process

Jad Saab
Program Director, AI - NYC

INSIGHT

Roadmap

1. AI Program
2. Transferable Skills
3. Main Interview
4. Best Practices
5. Questions

AI Program

Broad Field of Data

- Data is everywhere, and it's growing

- Specialization also on the rise
    - Data Analyst
    - Data Scientist
    - Research Scientist
    - AI Researcher/ Engineer
    - Machine Learning Engineer (MLE)

    Most common roles out of the AI Program (MLE most in-demand)

    - Data Engineer
    - DevOps Engineer

AI Program

- Intensive 7 week full-time project-based training
- Self-directed, collaborative learning
- Develop technical and professional skills for positions such as AI Researcher, AI Engineer, and Machine Learning Engineer
- Scholarships available: insightfellows.com/scholarships
- No PhD requirement

AI Program

| Intro and Project Ideation | Project Phase | Interview Preparation | Job Interviews |
| Week 1 | Weeks 2-4 | Weeks 5-7 | |

Transferable Skills

What do AI Researchers and ML Engineers do*?

- Follow developments in domain-relevant literature
- Meet with stakeholders, align business goals with technical plan
- Acquire and label data
- Architect models and/ or apply transfer learning
- Train, track, and maintain models
- Collaborate on code reviews and code testing
- Deploy models, containerize code, build APIs/ microservices
- Communicate technical results to broader team
- Work with Data Engineers to ensure scalability

*More on the specific roles later

The AI Researcher and ML Engineer

Machine Learning and Deep Learning
- Supervised learning
- Unsupervised learning
- Neural Network architectures in NLP, CV, RL, AE
- Regularization, loss functions, optimization, evaluation
- Frameworks, e.g. TensorFlow and PyTorch
- Probability
- Statistics
- Linear Algebra
- Experimental design

Computer Science and Software Engineering
- Computer science fundamentals
- Software engineering best practices, e.g. OOP, version control, unit testing, CI/ CD
- Scripting language, e.g., Python
- Compiled language, e.g. C++
- API and microservice design
- Cloud services, e.g. AWS
- Databases, e.g. SQL

Domain Knowledge and Professional Skills
- Conveys passion for the business
- Deconstructs a problem strategically
- Fills-in gaps in knowledge proactively
- Starts with the raw data and EDA
- Explains assumptions, considers alternatives
- Collaborates, works towards team goals
- Demonstrates creative thinking

Communication and Visualization
- Starts with clearly defined user need
- Tells story, how the technology addresses need
- Resonates with diverse audience, e.g. senior management
- Relates technical constraints/ goals to business constraints/ goals
- Demonstrates thoughtful design and aesthetic, e.g. for data visualizations

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Importance often overlooked

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Bigger emphasis

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Main Interview

Process

- Apply through apply.insightdatascience.com
- Main Interview (30 minutes)
  - Chat about background and previous work
  - Discuss a paper sent to you in advance
  - Present a recent project, with code (preferably not course-related)
  - Q&A
- Coding Challenge
- Final Interview (15-30 minutes)

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- Be concise and clear
- Start big picture, then get specific
- Keep it conversational
- Anything in your background is fair game
- STAR(T): Situation, Task, Action, Results, Takeaway

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- What problem where the authors trying to solve?
- What was the shortcoming of the previous approach?
- How does the new approach address that?
- What are the limitations?
- What did you think of the paper? etc...

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- Product focus - what problem are you trying to solve, and who are you solving it for?
- Highlight key pieces of code
- What did you learn from EDA?
- Why did you choose your model?
- How did you evaluate the model?
- How did/ would you deploy?
- What would you do if you had more time?
- Keep it conversational
- Mind the time

Best Practices

Food for Thought

- Understand this career transition
  - Why AI?
  - Look at blogs, companies, industries, job boards etc.
- Treat the interview as a two-way conversation
- Demonstrate thoughtful choices
  - Choosing the right tool for the job
  - Providing context around alternatives

Questions

Final application deadline: July 27th

Session starts: September 14th

Apply: apply.insightdatascience.com

Jad Saab
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jad@insightdatascience.com

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