Advice to Math Graduate Students and Postdocs
for Getting Non-Academic Jobs [*]

Do summer internships! They give you both experience and contacts. Academic-year internships may also be available.

Take technical courses outside of mathematics. These should be appropriate for your interests but may include, for example, courses in statistical detection and estimation, signal processing, statistical pattern recognition, fluid mechanics, elasticity, materials modeling, cryptography, applied optimization/operations research, or data analysis. Take courses that deal with real applications and data if possible, and acquire computer skills, both in programming and numerical methods. (Remember that you can often audit courses rather than registering for them.) If you have an opportunity to work on an interdisciplinary team, do it. Other ways to acquire breadth: skim through technical books in the library or bookstore, and make friends in other departments and talk to them about their technical problems.

Don't expect non-academic jobs to be advertised on MathJobs. Instead look at company websites, and `www.usajobs.gov` for government lab jobs. (See also
`www.usajobs.gov/Help/working-in-government/unique-hiring-paths/students/`
for information for students and recent graduates and
`www.usa.gov/federal-agencies/national-laboratories`
for links to the national laboratories.) Sometimes the advertisements will be for people with engineering degrees, but often mathematicians can do those jobs. Your university's career center may have useful information. For jobs in the defense industry, US citizenship may be a requirement, and a past or active security clearance may be an advantage.

The best way to find a non-academic job is through personal connections. Go to conferences in the field you'd like to work in, and talk to people from places where you might like to work. Make use of faculty connections.

On your resume: You don't need to include details about teaching positions. Companies and labs are trying to match applicant skills to the company/lab projects, so list all relevant technical skills, including technical courses such as physics and computer skills. Mention any experience working in an interdisciplinary team (perhaps during an internship).

When you apply, you may have to do it through Human Resources, but also send your resume and a cover letter or message to any technical people you know. If you can tailor your letter to (truthfully) express interest in their work, they are more likely to pay attention and look for your application in the system.

Keep in mind that you're not being hired to work on your own problems. You're being hired to help someone else work on THEIR problems.