Udacity Data Analyst Nanodegree Program:

Ask Me Anything, with Data Analyst ND Alum, <u>Dylan Lennard</u>

This event was hosted in the Data Analyst ND Student Slack community on November 29, 2017.

<u>*Transcript*</u>*:*

Eric Elliott, Community Manager, School of Data:
Welcome to Ask Me Anything!

Our guest for this event is Dylan Lennard, a graduate of the Data Analyst Nanodegree Program.

Dylan is currently working with Udacity as a Session Lead for the in person Connect Session for DAND. He has also worked in product analytics in the San Francisco Bay Area for the past couple of years. He graduated from University of California—Davis in 2015 with a bachelor's degree in Economics and Minor in Statistics. In his spare time Dylan loves to ride his bike, workout, explore the hills and nature of San Francisco, and work on various projects such as building apps, expanding his skills as a data worker, and spending time with friends.

Dylan is here to discuss the opportunities and challenges he encountered after graduating from the Data Analyst Nanodegree Program, and provide some tips and insights for all of you future DAND graduates.

If you have questions on these topics or anything related to the transition from Data Analyst student to Data Analyst job seeker, or about applying the skills you're learning at Udacity in your current job, please post them and Dylan will try to answer as many as possible.

<u>*Dylan Lennard*</u>*:*
Hey Everyone, happy to be here! Thanks Eric for having me. I think he did a good job introducing so ask away!

*Robert Manriquez***:**
Hey everyone! I've got a few career guidance questions, I'll post a few here. Please feel free to join the conversation! Here are mine:
1) What are some effective ways to leverage your Udacity Nanodegree into landing an interview?
2) Is there any job placement data for udacity graduates?
3) For students who are transitioning into the tech industry, what qualities or strategies are there to prove you're job ready with just a nanodegree and portfolio?

Dylan Lennard:
Hey Robert.

2) We'll have someone look into that, I don't have any data there.

1) That's a tricky question. Cover letters are probably your best friend here, speaking to the difficulty, the rigor, the time commitment, and the interest that gave you the will to do this while also working and going forward with other commitments. It's best if you can use it alongside other work experience to tell the story of someone who is up and coming and looking to prove themselves as a data worker.

3) The biggest thing here I think is pivoting on what you've already done. You have experience as a worker already which is worth a lot (industry knowledge, how to be a good employee, how to work with people, etc.). Tie this nanodegree in with that experience if you can. Also, try to do data work that is closely related to your field so your domain expertise can shine with your analysis. It just makes you look that much better. Make sure your github looks good (everything has clear README.md files) and your linkedin is good as well.

Robert Manriquez:
Dylan,
Thank you for taking the time to reply! That's quite a good piece of advice, weaving my experience and data skills into a story for potential employers. I'll definitely keep it in mind as I job search, thank you!

S Azhar:
Question : How to successfully follow the schedule for nanodegree ? (with job and travelling its getting hard to take time out, anyone in same boat ??)

Dylan Lennard:
Hey Azhar,

The truth is it takes a lot of dedication. Carve out time each day (if possible) and a big chunk each week to the program. Most importantly, make sure you're ready for something like this. A lot of people underestimate how much work is involved, but the payoff is great!

I personally watched videos in the morning and night, and worked on projects on the weekend for at least 5-10 hours. That worked really well for me as a strategy.

zey:
For getting your first job, how many job applications did you send out? What job websites did you use? indeed? Dice? Monster? LinkedIn?

Dylan Lennard:
Hey Zane,

Great question. I actually had an opportunity arise internally in the company I was with when I started the nanodegree, and I was able to use the nanodegree and my experience at work to land my next opportunity. When that time came, I had originally sent out many applications and gotten a few hits. I changed my approach after getting more experience and focused on LinkedIn. I had a lot of success with recruiters, and managed to get multiple high paying offers around the same time without applying anywhere. Making your LinkedIn clean and making yourself available for opportunities (there's an option to let recruiters know you're open) can pay off very well (but be careful with contracting roles, there are pluses and minuses).

Guanrong Fu:
Question: How did you find your first data-related job? I am in a career transition right now, and have finished DAND 2 months ago, but still cannot find a data-related position.

Dylan Lennard:
Hello!

As said previously, I got lucky and had some internal opportunities open up at my first job, so that's where I started. If you're having trouble in the job market, look for any data related opportunity you can find at work and try to take advantage of it and put it on your resume. If not possible, go to meet ups, do some analysis on your own. I once had a gaming product manager suggest that I go to a startup and offer to work for free on weekends as an intern (this was a last resort type of thing) to get the experience. That's a bit extreme, but do what you can to show people that you care about data!

zey:
How long did it take for you to finish the DAND? What is the average time for students to complete?

Dylan Lennard:
It took me almost exactly 1 year, I'll be honest. Back then, it wasn't done in 'terms', but was a monthly subscription. I took long breaks where I didn't do much (month or so), and then I had months where I got multiple classes done. That's how I operate as a person, but everyone is

different. I am currently running the Connect in person session for DAND and we finish in about 4 months total time. It's aggressive, but it can be done!

S Azhar:
@Salvi while Dylan is answering some questions... i will provide my 2 cents. Start with one tool or technology ... get perfect then move onto the other tools.. once u learn at least 3 then u can multitask..since u will be confident by then....

Dylan Lennard:
I very much agree with this sentiment. Become a beast with a few tools (SQL and Python I'd recommend for y'all), and maybe lightly a third (for example, R). That way if you ever get called on to do a language you're not super savvy with (say you know python but not R well), then you can speak to your python skills and make them feel comfortable that R will be an easy transition.

Hong Kai Lee:
Hey Dylan and all,
1. I would like to know if there is a job vacancy list from companies who are interested to hire talents from Udacity Nanodegree Graduate, or rather a direct referral program from Udacity to some data science companies/startups?

Dylan Lennard:
Hey!

I am not directly sure about that, I'm not involved with the career services from Udacity. However, Udacity does have the Career Portal which you all should have access to. Here you can find resources for future employment, resume help, etc.
https://blog.udacity.com/2017/09/get-hired-udacity-career-portal.html

Priya Pradhan:
Hi Dylan, Thanks for offering this session. I have three questions: 1. how long did it take for you to get a job after you started the job search in this field? 2. Is this nanodegree enough or needs to be coupled with some more skills to get a job? 3. What are the major companies hiring in this field?

Dylan Lennard:
3) I'm not entirely sure, there's always people looking for data workers though.
1) As stated, I got lucky and got an internal role about 6 or so months after working my first job and starting the Nanodegree.

2) If you're looking to work as a product analyst or data analyst, you're good to go if you're confident in your projects and abilities. If not, you'll need at least a few more things to get into a role you'd like, for example a little work experience that you can pivot on.

If you're looking to go into a data science role specifically, you've got to get a lot more under your belt in terms of knowledge and projects. However, the DAND is a great place to start, and a first job in data is another. Once you feel confident as a data worker, if you're trying to go Data Science I'd recommend the Machine Learning Nanodegree. I hear nothing but good things, and am considering enrolling myself to be perfectly honest!

sanghun chae:
Question: After you finished DAND, what have you been doing to keep improving your skill set? Taking machine learning courses at Udacity? or studing stastic?

Dylan Lennard:
This is a great question! I worked on many projects, some solo and some with Udacity. I focused as much as I could in my job on technical projects using R, SQL, and I spearheaded an initiative to move the company from using R to python since we didn't have many analysts but had many engineers.

Work on fun projects! That's my best advice. I'm also currently learning c++ on my own and getting ready to take classes again next semester to expand my computer science knowledge base and skill set.

Mrinal Roy:
In addition to the course exercises and projects, which additional resources will you suggest?

Dylan Lennard:
Anything that sparks your curiosity or drives you for the moment. I am teaching the Connect session for DAND right now, and one thing I wanted to do was to automate the data loading process in the data wrangling course. So I wrote scripts to fetch the data from a URL, read that into an OSM file, read the OSM in, perform the necessary changes to the data, load the data to csv, and then create the DB, create the tables, and load the data into the local database all using python. It was a super fun project that took me forever, but very rewarding.

I've also done the machine learning for trading course which was fun, really just find something you think is fun and work on it. Find a good blog, and try to copy their code, find a buddy who is interested in this stuff and work with him/her.

I had originally wanted to do a cool project with a friend of mine who had a good stats background and not much python/R. We were gonna work together on it, but he ended up leaving the company and moving away so the project was lost :disappointed: but that sort of stuff is rewarding, fun, and looks GREAT to employers! Especially if it's a technical person at the company you're interviewing with.

Michael Li:
Hi, Dylan, how do you demonstrate what you learning DAND is competent for analytics job?

Dylan Lennard:
This one is tricky.

Basically you have to decorate your linkedin/resume enough to get the recruiter's attention, but after that it's a matter of showing some form of data competency as well as breadth of knowledge. If you're new to the field, no one expects you to be a hero, but if you can 'speak the lingo and the language', so to speak, it'll make you look good and they'll feel they can take a chance on you.

Also, having 'the one skill' they need does wonders. There have been multiple jobs where I was able to get my foot in the door/keep going ONLY because I had done the A/B testing course (that's a major skill, and if it's something in your extracurricular section, make sure you do that as soon as you've graduated).

Guanrong Fu:
Question: Do we need to understand Data Structure & Algorithms very well as a data analyst/data scientist?

Dylan Lennard:
As a data/product analyst, not at all. As a data scientist, it depends.

If you've accomplished everything in your DAND, it couldn't hurt! I love that stuff, but for an analyst role it's not really necessary. I've never been quizzed on it before, and if I was I would definitely expect to know that it's an expectation ahead of time (and that it pay well!).

However, maybe a Data Scientist could answer this question better. Once you have graduated, consider reaching out to the alumni group slack and asking your question there! You might get a different answer.
http://bit.ly/join-alumni-slack

Nirupama Puthur Venkataraman:
What about GitHub? I am reading on the sections to update Readmes and stuff on the cAreer portal. But would be more beneficial to look at a profile for inspiration.

Dylan Lennard:
Absolutely. go find some fun projects and check out their README files. In general, no one is going to actually read your code (unless they have time and are a huge data nerd :laughing:), but they will read your read me. Show that your project is cool, that you can communicate well, and structure writing well. Communication is an underrated part of getting any job, and that's especially true in data analytics.

Your analysis and code might be amazing, but if you can't present your findings clearly, no one will know how good you are.

Cecilia Lee:
How do you present your projects? Merely at GitHub? Do you write a blog, or made a website for yourself to demonstrate your portfolios?

Dylan Lennard:
I don't have a major portfolio outside of work projects which makes it tough since that's proprietary stuff. However, make your linkedin look good and mention all the things you've done.

Blogs are better if you're passionate enough for it, same for making a website for yourself. All of those are good things, but take time, energy, and dedication. If you've got that, go for it! It'll look great, and employers can really see how good you are and how much you care!

Mrinal Roy:
This will be personal, but I have good experience in Microsoft BI (SSIS, SSRS, SQL server) but no experience in python / R / Panda numpy, After completing those courses, I feel I know a little, but not confident enough to include in resume, what will be your suggestion in this/ similar case

Dylan Lennard:
Sharing this one because I think people relate to this idea a lot:

Do as many projects as you can! Work on fun things that keep your interest. courses only get you so far, what really gets you good at these languages is experience. You can't count on knowledge from a course to make you good at something, all skill comes from practice! I've been using SQL for 2+ years, pretty much only at work, and because of that I have expertise in it. Courses didn't get me as far, though obviously they're a great first step!

xiaoyan tang:
Hey Dylan, I have a question, with so many people changing major to data science, how can we stand out to be very competitive?

Dylan Lennard:
The field is not too impacted yet, so get started now and work as hard as you can to get your foot in the door somewhere! Data science is still young, and work experience will almost always trump schooling!

Dan Hillman:
Hey Dylan, what tool/language do you use the most in your current position?

Dylan Lennard:
As of current I'm only teaching for Udacity at the moment. HOwever in my last role it was mostly SQL and Excel! In the role before that I used R a lot, almost daily, and quite a bit of SQL.

SQL is very important, and you need to know it well. I'd say, honestly, it's more important than python/R (though you need one of those and/or excel to play with the data).

shashank barki:
Hi Dylan, Please elaborate on Statistics knowledge. How much of stats is needed and what is the benchmark here

Dylan Lennard:
You need for sure descriptive statistics (mean, std deviation, IQR, median, quartiles, etc.) and you need to know how to do distributions/histograms. That's at the very minimum.

I would recommend you also know hypothesis testing with t-tests, you MUST know A/B testing for conversion (binomial proportion tests in the A/B course from udacity) and mann-whitney/non-parametric tests are bonus.

Modeling and such you should know, but you won't be doing much of unless you go more towards data science in the future.

Michael Li:
questions: how relevant on product analytics is related with what is taught from data analyst nano-degree?

Dylan Lennard:

The older versions of the DAND were sparse,but they've gotten very good and focused. I'd say almost everything, especially with the latest version. The latest version is very focused, and I think all that course work is good for industry based on my experience!

Fanliang Cen:

hello dylan, when learning packages, i found that there are a lot of information inside one single package (e.g. pandas) and it will take a lot of time to learn/master even just one. Do we have to be familiar with every single one of them to be able to get a job? where's the finishing line?

Dylan Lennard:

Definitely don't have to know all. Know one language very well (R and some packages like dplyr, ggplot, etc., or pandas/numpy/seaborn or matplotlib), and try to learn the other one on the side just so you can say "I've worked with it". I think it's much better to be very very good with one, and then you can learn the other when you need it.

Focus on tidyverse if learning R, focus on pandas and seaborn if learning python

Mrinal Roy:

May be silly question:
Should we highlight the nanodegree in resume?
If yes, which section?

Dylan Lennard:

Highlight your projects as personal works, highlight the material you learned.

If you're going for analyst roles: highlight A/B testing if you do it, stats, intro to data analytics, data wrangling, and EDA with R. Also, if you're happy with your visualization skills, highlight that you've worked with Tableau

Machine learning not crucial for analyst roles, but it's fun and a great prep for your next step!

K.Srikanth:

Hi @Dylan Lennard Dylan was ur major in economics and statistics a major selling point or do u think people with the required skill from different backgrounds say even linguistics can fet hired

Dylan Lennard:

i definitely know it helps because it fit in with the overall trend of data work. However, that just puts employers at ease. What really helps are projects that you can speak to, and literally any experience you can grab at your current place.

You can definitely get a role with linguistics, it's all about how you tell your story, and what work/projects you can speak to. My old coworker, Katie, was actually in publishing and found her way into analytics through the company and has been an analyst for like 12 years now. She wants to go back to school, but if she looked for another gig she'd have no problem since she's basically an expert in SEO!

Ariel Jiang:

Hi Dylan, what level of SQL is required for most data analyst job? Can I say I am proficient in SQL after mastering the content provided by DAND?

Dylan Lennard:

Kind of. I think you're safe to say you're proficient, but you need to keep your chops up! I think an employer will see that you've done this and that you're new and 'cut you some slack'. At the very least, put it as a skill on your resume. If they ask you how experienced you are, tell them what you're comfortable with, what you're good at, and what you've been exposed to. That will give them some sense of where you are.

I wasn't amazing at SQL when i got my second job, but I'd been exposed to a lot of hard concepts and was VERY good at complex joins. So if you're extremely comfortable with Group by statements, then speak on that and stick to it.

But stay humble...I had an interview recently where I said "I feel like I can solve any problem I'm given in SQL comfortably" and then was given a question that I knew there was an easy answer for, but I hadn't used that technique yet (lead and lag functions), so my answer (I told the interviewer all of this) was super inefficient and clunky. That's what you get when you get cocky lol

Himanshu Kumar:

Hi Dylan,
I am working in US on a H1B visa and have an overall experience of 8 years in software testing. I am looking to enter into the area of Data Analysis jobs after completing the term 2 of this program. What are my prospects of getting a job, considering the fact that I am not a permanent US resident and also that I already have spent more than 8 years in a different area. Also, will my salary be same as entry level positions or will my experience be taken into consideration?

Dylan Lennard:
Hey Himanshu,

I thought I had replied to this already, apologies. Unfortunately I don't know anything about H1B visas and all of that. I have no idea how that affects the hiring process, so I honestly couldn't tell you :confused: sorry about that. I'm sure your experience is also taken into account, but again I'm not sure how that is affected by your immigration status.

Data wrangling course provided you with a great asset: a local database that you can practice on. Getting databases to practice on is dang near impossible! SO practice as much as you can, practice group by, window functions (look those up), case when statements (look those up too), subqueries (super important), etc.

Nicole Norris:
Are there any good courses or resources you'd recommend for learning SQL? I feel that the data wrangling course got me started with SQL, but that's it.

Dylan Lennard:
It's a beginner exposure for sure, but the DB is your canvas to paint and practice and get better! Other than that, keep trying for a gig where you can use SQL.

Don't worry about dialects of SQL too much, they're mostly the same honestly. Certain string aggregation functions and date functions change, but you can learn that on the job.

Redshift and Postgres are your two biggest ones to learn. MySQL is next in line, and oracle you just won't be able to expose yourself to until you get a job using it. SQLite is fine for a learner, though, so don't worry!

Mohammad Nabil Elnesr:
Hi @Dylan Lennard
Is big data topics like hadoop is required for a good job in data analysis?

Dylan Lennard:
Not required but it definitely helps. To be honest, if you're working with big data as an analyst you're often going to use HIVE, which is a way to use SQL based queries against Hadoop clusters rather than a SQL DB.

So if you learn SQL well, you'll be able to do Hadoop well.

If you learn to do hadoop jobs and whatnot, that looks great but I wouldn't prioritize it unless that's the one thing missing from your resume. In which case, look into apache SPARK and how you can use it with python.

Purva Huilgol:
Question: For data analyst/product analyst technical interviews, what are the major skills they can test you on, and to what level of expertise?

Dylan Lennard:
Generally what happens is they give you a sort of technical assessment. Every company is different. Facebook does live coding, Babycenter gave me a takehome, Shipt gave me a take home.

The biggest thing is either a) how well do you code (Facebook cares about that) b) what sort of analysis can you do and c) HOW WELL CAN YOU COMMUNICATE YOUR RESULTS/THOUGHT PROCESS

C is not always the most important, but it's huge no matter what.

So prep by knowing your language (practice your fundamentals a bit), and otherwise just try to anticipate what they'll ask you.

You do not need to know Data Structures and Algorithms. You do need to know EDA to some degree, Data Wrangling to some degree, SQL to some degree, and python to some degree. TO what degree really depends on the role, the company, the experience level, and how much they pay/how prestigious the company (Google and Facebook have high expectations).

Charlie Hahn:
Hi Dylan, say we complete our nanodegree or the term ends, do we still have access to "elective" courses like "machine learning" or career resources?

Dylan Lennard:
If you complete your nanodegree then yes, you'll have access to all resources. If the term ends and you don't complete it, I'm not sure. We didn't have terms when I did this degree (that's kind of a new thing for DAND, the connect session isn't even term based and it started in October that's how new this is). Talk with the support team, or maybe someone here can answer that? Anyone?

Fanliang Cen:
hi Dylan, my major is Finance, I want to get a job in a tech filed but I don't want my four year go to waste. I am enrolled in the nano degree program at the moment. Any career recommendation/job path that you give me? Anything is appreciated

Dylan Lennard:
Do the machine learning for trading course once you finish the DAND (and look online to find wiki page for the course assignments), you'll love it!

Try to do finance based projects to get your foot in the door with data gigs. And remember, all experience you have work wise is good for you in your future roles (you learn more than you realize). If you're really damn good at quantitative stuff (you'll need more advanced schooling for this), you could try to go the quant route, but that's a super competitive field.

So yeah, stick with projects that are related to your domain knowledge to keep it fresh. Having said that, it's an unfortunate consequence that switching careers means you lose some old skills :confused: just the nature of the beast honestly. I can related on a few fronts.

Eric Elliott:
Hey folks, we're going to wrap it up now. Thanks to everyone for your participation!! And a round of applause to Dylan Lennard who answered dozens of questions!

Also, as Dylan mentioned, please use the resources available to you through Udacity, including the Career Portal: https://blog.udacity.com/2017/09/get-hired-udacity-career-portal.html

And after graduation, please join Alumni Slack! http://bit.ly/join-alumni-slack

Dylan Lennard:
Thanks everybody!

Eric Elliott:
Thanks, @Dylan Lennard. Hopefully we can have you back again for more questions!