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| ### Undergraduate Teaching |  |
| 1. Pedagogical Approach: How do you adapt your teaching methods for diverse learning styles in data science? | Motivate people  Mix it up  Diagrams, speaking, getting them to speak to each other, ask questions,  Flipped classroom  Interactive class work  Diagrams, videos  Reading material  Problem based learning |
| 2. Curriculum Development: Can you describe your experience in developing or revising data science curriculum? | CS – SQL  HIM – entire data science program, postgraduate and undergraduate subjects, several redesigns!  SQL, R, Access / Excel, Systems analysis, Tableau, Health informatics domain specific topics (EHR)  Digital Health Informatics – Big data, Internet of Things, EPidemiology |
| 3. Technology Integration: How do you incorporate current data science tools and software in your teaching? | Utilizes networks for updates.  Incorporates latest datasets.  Provides database access.  Teaches API and SQL use.  Aims to use ChatGPT for coding. |
| How will you use chatgpt in teaching | Lesson plans, images, self education, quizzes  (chatgpt to kaboodle tool!) |
| How will you get students to use chatgpt | Flipped classrooms, making use of live chatgpt  Work with chatgpt to do HARD things; prepare X, extend Y, change code to do Z, make real world application |
| How to deal with ChatGPT and assessment | Ask chatgpt to “extend knowledge”, extended knowledge will be on the test!  ‘explain this code’ sessions  Individualized datasets  Set the bar high, outside chatgpt capabilities  Infographics, quizzes, portfolios (with proof of work), peer-assessment  Collaborative work  Contextualized assignments: “given this framework and this data…”  Research brainstorming with chatgpt, include self  Create assignments beyond ChatGPT's scope, custom massive datasets  My personal experience – learn anything, lifelong learning  “If you have a question, ask ChatGPT first” |
| 4. Student Engagement: What strategies do you use to engage students who are struggling with data science concepts? | Relationships  build on existing knowledge.  Motivate attendance, effort  Maintain open-door policy, positive feedback  Track students, learn names. |
| 5. Assessment Techniques: How do you assess student learning in data science courses? | Ensure engagement, prevent cheating.  Assign individualized tasks.  Encourage collaboration, unique outputs, random teams.  Require students to execute code  Live assessments |
| 6. Teaching Philosophy: Could you elaborate on your teaching philosophy for data science? | Motivate the students  Learn by doing – problem solving, authentic assessment, technical proficiency  Relationship building. You have to like the students, and they have to respect you  Self starting – continuous learning |
| 7. Adapting to Change: How do you stay updated with the rapidly evolving field of data science? | Blogs and podcasts, twitter, mastadon  papers  personal projects / industry collaboration  Active research  Teach!  Remain open to feedback  Relationships – mentorship and mentoring |
| 8. Classroom Challenges: Describe a challenging situation you faced while teaching and how you resolved it. | Student that wanted to pass without working. Leaned heavily on his disability. Took my class 3 times. |
| 9. Collaborative Learning: How do you foster collaborative learning in your data science classes? | Collaborate with ChatGPT  Group work – big projects  Discussion forums  Peer review  Cross disciplinary assignments  Small group in class work |
| 10. Innovative Teaching: Can you provide an example of an innovative teaching method you’ve used in data science? | Real life massive datasets – multimillion health records  Co-assignment with other capstone subject  Role plays  Interactive monitors, get student groups to put their ongoing work up on the screens,  The more action the better  Create an innovative public health related tech product, sell it to us |
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| ### Postgraduate Student Supervision |  |
| 11. Mentoring Approach: What is your approach to mentoring postgraduate students in data science? | realistic problems  either real life data  real problems (via real relationships)  is due to see where the student is at and try to develop their interest those those three things will sort of drive them with the hardest part of our postgraduate work. Continue on especially the thesis post graduate thing. |
| 12. Thesis Supervision: Describe your experience in supervising data science theses or dissertations. | Thesis by publication Matthias  Shaun Purkiss  Honors thesis |
| 13. Conflict Resolution: How would you handle disagreements or conflicts with a postgraduate student? | Bring in the team. Like children. Consistent rules. Assertive (because these students can be are very powerful ) and empathy  About the relationship  1. Understand the Nature of the Disagreement  2. Prepare for the Discussion  3. Initiate a Constructive Dialogue  4. Propose Solutions  5. Implement Agreed Actions  6. Follow-up  7. Reflect and Learn  Feedback Loop: Seek feedback from the student post-resolution. In data analysis, feedback is vital for model improvement; the same goes for interpersonal conflicts. |
| 14. Career Guidance: How do you assist postgraduate students in preparing for data science careers? | Make sure they have the right skillset:  Communication Data manipulation Analysis / visualization  Industry exposure – real life projects, placements? Case studies, research opportunities Professional branding – linked in, github |
| 15. Research Collaboration: Share an example of a successful research collaboration with a postgraduate student. | Shaun purkiss |
| 16. Ethical Guidance: How do you teach ethical considerations in data science research? | Frameworks – privacy, bias, algorithm transparency  Guest lecturers – ethics in practice  Anonymization techniques |
| 17. Student Independence: How do you encourage independence in your postgraduate students? | Provide tools, give exciting tasks  Clear achievable goals and milestones  Opportunities to teach and lead  Mutual support |
| 18. Feedback Process: Describe your process for providing constructive feedback to students. | Authentic  Focus on the positives, positive language, ‘I want’ statements  Provide clear criteria. Model what I want  Relationship NB  Ongoing feedback, incremental feedback  Audio / visual feedback |
| 19. Publication Support: How do you support students in publishing their research? | Find journals. Help with writing process. Provide accessible datasets  Provide them with my experience. It is a process.  Write around the figure |
| 20. Networking Opportunities: How do you expose your students to networking opportunities in the data science field? | Placements/research/internships  Local meetups?  Guest lecturers  Conferences (HIMAA)  Interdepartmental (small -> advantage/disadvantage)  Alumni networks?  Hackathons  Rural data science leaders network |
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| ### Research |  |
| 21. Research Interests: What are your current research interests in the field of data science? | LLM enabled approaches embeddings  GIS/Big data/Linkage |
| 22. Funding Strategies: Describe your experience in securing research funding. | Partners – relationships  Knowledge of datasets / data sources  Build on success  Persist / refine |
| 23. Collaborative Research: How do you approach collaborative research projects? | Relationships  Goals / scope/ roles  Formal and informal Communication  agile Plan  Publication plan |
| 24. Research Impact: What is the most significant impact of your research in data science? | Linkage methodologies  COVID data pipelines  Use of Targets framework |
| 25. Innovative Methodologies: Can you discuss an innovative research methodology you have used? | DH linkage  Data driven linkage framework |
| 26. Industry Partnerships: Describe any industry partnerships you have established for your research. | Mobile phone project  Refugee communities  SCAAB  Energy efficiency project |
| 27. Research Dissemination: How do you ensure your research findings are accessible to both academic and non-academic audiences? | Papers, the Conversation |
| 28. Interdisciplinary Research: Can you provide an example of how you have integrated data science with other disciplines in your research? | Public health  Health service management  Health Information Management  Computer science |
| 29. Challenges in Research: What do you consider the biggest challenge in data science research today? | Skills gap – people don’t know how to use the tools  Domain integration – especially true for experts in other domains, we do not know how to integrate their data  How will LLM change the field |
| 30. Research Ethics: How do you address ethical concerns in your research? | Consult. Be aware. |
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| ### General Skills and Experience |  |
| 31. Professional Development: How do you pursue professional development in the field of data science? | Conferences. Teaching. Twitter / blogs |
| 32. Industry Experience: How does your industry experience enhance your role as a lecturer in data science? | DOH  Lived experience. Good examples. It is not just the techniques, but integrating those techniques with the human world.  Minimal viable product. Tight feedback loops. |
| 33. Technology Trends: What emerging technologies do you think will significantly impact data science in the next five years? | LLM  Faster hardware, better algorithms, better software |
| 34. Teamwork: Describe a situation where you had to work in a multidisciplinary team. What role did you play? | DOH  I was the data guy, and the tech expert. At the end of 2.5 years, everyone knew my name. I didn’t get pestered much, but when I did, the problem was tricky, and I could solve it.  E.g. spin up a docker image to run a headless chrome browser to scrape a DNA dataset daily. |
| 35. Leadership Experience: Can you discuss your experience in a leadership role within an academic or research setting? | Purkiss  Mobile Phone  Exergaming |
| 36. Communication Skills: How do you effectively communicate complex data science concepts to a non-specialist audience? | Know audience  Maximally simple language  Metaphors  Visualisation  Tell a story  Participation  Examples  Incremental complexity – with feedback |
| 37. Diversity and Inclusion: What strategies do you employ to promote diversity and inclusion in data science? | Inclusive examples / language  Mentorship / outreach  Self awareness, implicit bias |
| 38. Professional Network: How do you leverage your professional network to benefit your teaching and research? | Joint projects, guest lectures  Promote my skillset  Co-teaching |
| 39. Time Management: How do you manage competing demands of teaching, research, and administration? | Triage. Critical tasks first. Time for reflection. Time off for rejuvenation  Automate as much as possible  Leverage students / relationships – e.g. research projects. Specialize in what I am good at, let others do the same  Say NO a lot  Recharge batteries – peer support |
| 40. Vision for the Role: What is your vision for the role of a data science lecturer in the evolving landscape of higher education? | Interdisciplinary  Innovative – continuous improvement – at the forefront of technology  Well connected to academia and industry  Public engagement  Entrepreneurial encouragement |