A Guide to Interpreting and Communicating Regression Analyses for Data Analytics Students

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Abstract

Faculty teaching data analytics at undergraduate level are often faced with the tension created by student under-preparedness vis a vis underlying and assumed statistical prior knowledge and demands of the course and time constraints. How do faculty close this gap given time constraints and a desire and need to keep the field open to the very student that is likely to be under-prepared? In this paper, we propose the use of flow diagramming as an accessible method for aiding the student recap and upskill by dechunking unfamiliar processes, e.g. interpreting regression analyses, in ways that are time efficient and also not alienating to the student. In preliminary data collected for this pilot study, we found that the use of flow diagrams to close prior knowledge gaps in regression analyses significantly improved student understanding without additional remedial instruction. Time saved can be directed at core learning objectives of the analytics. And yet, accessible remedial tools like flow diagrams may help retain underprepared students in analytics courses.

Keywords: Data Analytics, Regression Modeling, Flow Diagram, Flow Chart, Remedial Activity, Remediation

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