

Using Data Envelopment Analysis (DEA) to Compare Computer Programming Languages

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Abstract: Computer programming languages vary widely in syntax, performance, usability, and ecosystem support, making direct comparisons challenging. Traditional evaluation approaches, such as benchmarking, feature analysis, or developer surveys, often fail to capture the multidimensional nature of language performance. This paper explores the application of Data Envelopment Analysis (DEA) to programming language evaluation, where languages are characterized by attributes such as difficulty index, time to proficiency, median salary, and market demand. The study reviews relevant literature, outlines methodological considerations, generates efficiency scores for programming languages using DEA, and provides a computer language learning path for individuals pursuing a career in computer programming

Keywords: Data Envelopment Analysis, Programming Languages, Computing Education

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