Statistical laws for career longevity ALEXANDER PETERSEN,
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EUGENE STANLEY, Boston University — Career length distinguishes successful
long tenures from unsuccessful short stints, and partially reflects the contributions
of an employee to the goals of the employer. In some professions, there are well-
defined metrics that quantify career longevity, prowess, and productivity, which
together contribute to the overall success rating for an individual employee. In this
talk, I motivate a stochastic model for career development that relies on two key
ingredients, random progress within the career and random stopping times termi-
nating the career. This model is exactly solvable, predicting the probability density
function (pdf) of career longevity, characterized by two parameters, α and x_c. The
parameter α quantifies the power-law scaling of the pdf, which is terminated by an
exponential cutoff after a crossover value x_c, representing the mean career lifetime.
We test the model with the large quantity of empirical data available for several
professional sports leagues, American baseball, Korean baseball, American basket-
ball, and English soccer, finding excellent agreement with the model's predictions.
In all, the generality of the model suggests that there may be common stochastic
forces that underly progress, success, and longevity in various professions.

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