**JMP Title:** Machines and Superstars: Technological Change and Top Labor Incomes in Production Hierarchies

**Abstract:** I construct a model of production hierarchies where agents and machines have varying productivity levels. Using the model, I examine how technological changes affect top labor incomes. Two main findings emerge: first, whether machines augment or compete with workers depends on the technology level. Second, if machines compete with workers, technological change can increase income concentration at the top. However, if machines augment workers, technological change may have the opposite effect on top incomes. The paper further examines the implications of Artificial Intelligence (AI) for income distribution. Key considerations are the potential for algorithmic management and the "nonrivalry" of AI. I find that the introduction of nonrivalrous machines raises the wages of the least productive workers the most. On the other hand, managers' wages fall, with the decline being most pronounced for the least productive managers. The model suggests that while future AI systems may reduce labor market inequality, the owners of these AI systems could capture a significant share of the income.