# Dr. Alex Zhang and Dr. Xiaoli Hu Receive UGC Grant to Integrate Data Analytics with ESG Education

Dr. Alex Zhang and Dr. Xiaoli Hu have received a large competitive UGC (University Grants Committee) grant to integrate data analytics with ESG (Environmental, Social and Governance) education. The grant is for teaching-research nexus in nature, which supports education and research innovations in ESG with big data. Essentially, the proposal aims at building the infrastructure of ESG education in Hong Kong through an ESG-Analytics Platform.

The motivation of the proposal is grounded in the shortage of ESG talents both locally and globally. Government and business leaders are increasingly emphasizing sustainability. A key aspect of sustainability is to measure an organization's performance concerning ESG. Talents who can analyze ESG issues with big data are in significant shortage. Yet existing ESG education fails to adapt to the industry demand. Moreover, ESG education remains fragmented, with business and engineering schools focusing on their own piecemeal of the subject.

The project team proposes to tackle the above challenges by developing a cloud-based student-led ESG analytics platform that can apply to sustainability education for all university students. The platform has two unique features that give students a novel learning experience and fill the gap in ESG-analytics education in HK.

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First, the platform will be the first of its kind to let students contribute, advise, and eventually lead as part of their discovery-based learning process through individual research and group project. On this platform, students will use their local information advantage to conduct ESG ratings of local firms, 95% of which currently lack ESG ratings. Yet such ESG performance information is valuable for government contracts, banks, private equity investors, and potential employees from the "Z-generation." We will train students with the existing ESG rating framework and demonstrate the rating process using Virtual Reality. Students will first source from the "wisdom of the crowd" to evaluate companies' ESG performance using government data, customer ratings, site visits, interviews with previous employees, etc. The ratings then go through a peer-review process before entering into the platform. By managing the platform, students also acquire cutting-edge skills regarding data analytics, cyber security, and internal controls. Such skills are in high demand and will enhance their employability.

Second, the cloud-based platform will build on Amazon's SageMaker Models to allow novel data analytic applications of ESG data. For example, in discovery-based projects, students will draw on the platform's proprietary ESG rating database and apply machine learning-powered anomaly detection tools to identify firms that engage in "greenwashing", that is, firms that claim to "go green" but hide their carbon emissions off the book. Such solutions have significant commercial values for government and business consulting and will spurn potential ESG-analytics start-ups. For applications with commercial values, we will connect the student teams with HK Tech 300 for commercialization.

The proposal was approved by the TDG-IICA panel in early January. The funding comes from the UGC, which will provide HK$985,099 run from March 2023 to May 2025. Dr. Zhang and Dr. Hu appreciate all the support from the AC department and the University, and look forward to integrating data analytics with ESG into courses in the future.