

# Hyperion Development: Teaching and Promoting R

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Education in rural areas of South Africa suffers from high dropout rates and low numbers of students achieving university degrees. Sadly, this is paired with a high unemployment rate for non-graduates. Hyperion Development ([www.hyperiondev.com](http://www.hyperiondev.com)) is an international, student-run organization set up to counter this by providing education and training in computer science and information technology to anybody for free via volunteer members. This is primarily achieved through the construction and delivery of free online courses in programming languages; the setting up of computer labs in South African schools; and teacher-training to ensure that high school teachers in South Africa have sufficient computer science skills. Our online courses are split into short tasks which consist of learning materials and exercises. Students are given these courses via Dropbox; work through the tasks in their own time; and then upload their answers to Dropbox (or ask for help if they get stuck). These answers are then checked by their designated tutor who gives the student feedback and the materials for the next task. Our courses stand out amongst other courses due to the human marking and personalized feedback. One on one help is also available in person at certain university sites in South Africa. These courses allow students to reach a high level of programming, with tasks covering bioinformatics, natural language processing, and complex algorithms; and include course material contributed by courses from institutions such as the University of Edinburgh. Often, students that take our courses end up working with us, allowing them to give back to the community. In the last year we have had over 1000 student sign-ups. We currently offer free online courses in *Python*, *Java*, and *C++*, and would now like to add *R* to this list, with the possible inclusion of statistics lessons. Based on the success of our current courses, we believe that an *R* course would be extremely popular. We believe that skills in *R* lead to an increased employability in a wide range of fields, and that this course could provide these skills to people who would otherwise find these skills difficult to achieve. Opportunities to the wider *R* community include the chance to be involved with course preparation; the chance for organizations to fund this exciting, not-for-profit course; and the chance to meet other people passionate about teaching computer skills.