

Sudan University of Science and Technology

College of Graduate Studies

**Implementation of Model Free Adaptive Controllers on  
Field Programmable Gate Arrays**

**تطبيق المتحكم التكيفي اللانموذجي على مصفوفات البوابات المنطقية  
القابلة للبرمجة**

*This thesis is submitted in fulfillment of the requirements of the **PhD** degree in  
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