

Wykeith Ng
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Personal Statement

Life is a learning journey; I strive to be forward looking with an agile mindset connecting applied knowledge & on-the-job experiences.

Career Summary

Although I am trained as an architect, my domain knowledge is in urban planning & design. My passion is in programming as well as exploring the innovative use of technology in infrastructure planning and design.

Since graduating with a building degree, I have been involved with numerous masterplans both locally and overseas. For example, the estate plans for Punggol Digital District within Punggol North, as well as long-term strategic city plans for the Government of Qatar. These projects gave me the breadth of experience through working across multiple disciplines in areas such as economics, environmental sustainability, transport engineering, risk management. I was also exposed to the depth of knowledge involved in the engineering & urban design of community centric urban streets and social spaces.

Over the years, I have worked in various areas of real-estate development such as financing, business projections to project implementation. As a town planner with Housing Board, I dealt with land issues and housing policy, working at Ministry of Finance gave me perspective as a development funder. At Sports Singapore, I gained insight on the daily recreational behaviors of Singaporeans. Along the way I participated the development of Tourism Attractions that aims to delight Singaporeans and increase International Visitorship figures.

Besides planning & design, my portfolio includes the technical evaluation as well as design review of various government agency developmental projects such as People Association's Integrated Punggol Town Hub and Jurong Town Corporation's Jurong Innovation District. Specifically, I had pioneered the use of machine learning techniques to aid evaluation.

Academic Qualifications

Masters in Architecture, Graduated May 2009
National University of Singapore

Bachelor of Arts in Architecture (2nd Class Honours Lower) Graduated 2006,
National University of Singapore

Short Courses

School of Life Long Learning NUS – Real Estate Economics Module, Feb 2020

School of Life Long Learning NUS - Probability and Statistics Module, Sept 2017

Udemy Online – Python for Data Science & Machine Learning Bootcamp, Oct 2018

Udemy Online – Workshop in Probability and Statistics, Aug 2018

Udemy Online – Statistics for Business Analytics A-Z, Jul 2018

Summary of Employment

Executive Architect – Digital Planning Lab
(Urban Redevelopment Authority)
Dec 2018 – Present (Full Time)
Key responsibilities include
- Joint Labs with various Government Agencies for Analytic Studies
- Developing Applications with Senior Demograhic Analytics
- Research Studies and Mentoring of Graduate Students

1	Urban System Science Studies	Population Geo-Demographic Analytics	Data Wrangling, Feature Engineering, Data Science,
		Size: 488,000+ Profiles	Na
	Work Areas - Research on population mobility patterns through transport transactional data - Building analytics ETL pipeline to tranform raw data into relational database - Development of dashboards to visualize mobility insights - Building machine learning models to predict activity choices of seniors		
2	Research on Application of AI for Building Proposal Evaluation	Smart Planning Assistant	AI Grant Call
		Size: Na	Budget \$2M
	Work Areas - Gather user requirements and project planning - Conduct Research Grant Call Briefing and workshops - Provide Initial evaluation of proposals for TEC - Do Budget Scrubbing of Submitted Research Proposals		

Senior Manager – Infrastructure Planning and Management
(Singapore Tourism Board)
Nov 2017 – Aug 2018 (Full Time)
Key responsibilities include
- Tracking of Workplans & Division Budget Utilization
- Secretariat for Senior Management / CE's Meetings
- Planning of Meetings,Incentive,Conference,Exhibitions (MICE) & Cruise Infrastructure

3	Cruise Masterplan and Future Terminal Study	New Cruise Hub and Terminal 2 plans	Cruise Infrastructure Layout
		Size: 54,000 sqm	Cost: \$1.2 bil
	Work Areas - Consultation with Authorities (URA/LTA/PUB) - Gather user requirements and project planning - Propose various layouts options for Long term Cruise Berths masterplan - Prepare Tender specs for calling of Feasibility Study Consult ants		
4	Project Feasibility Study	New MICE facility @ Old Science Centre	Architectural Concept Massing
		Size: 18,000 sqm	Cost: \$80 mil

	Work Areas - Gather user requirements and project planning - Produce concept massing and plans - Generate Schedule of Areas for costing		
Senior Associate – Design and Value Management (Ministry of Finance – Centre for Public Project Management) Feb 2015 – Nov 2017 (Full Time) Key responsibilities include - Design review & Funding evaluation of agencies’ DPC projects - Provide feasibility study services to Agencies - Facilitating Value Management Workshops			
5	Project Feasibility Study	New Intergrated Firestation and NPC	Architectural Concept Massing
		Size: 8000 sqm	Cost: \$46 mil
Work Areas - Gather user requirements and project planning - Propose various options for landtake optimization - Produce Concept massing and plans - Study various landscape replacement options and impact on project - Facilitate Value Management Workshops			
6	Project Feasibility Study	New Divisional Police Headquarters	Architectural Concept Massing
		Size: 54,000 sqm	Cost: \$230 mil
Work Areas - Gather user requirements and project planning - Consultation with Authorities (URA/LTA/PUB) - Study security and vehicular clearance with inputs from stakeholders - Produce concept massing and plans - Generate Schedule of Areas for costing			
7	Project Feasibility Study	New Animal Quarantine Station	Architectural Concept Massing
		Size:3200 sqm	Cost:\$7 mil
Work Areas - Gather user requirements and project planning - Assist agency in URA’s Site selection process - Produce conceptual massing options - Generate Schedule of Areas for costing			
8	Masterplanning Study	Next Generation Border Immigration Facilities	Strategic Masterplan Report
		Site:68ha	Cost: \$1.2bil
Work Areas - Interview project stakeholders and review user requirements - Propose future proofing / risk management scenarios - Coordination with external agency stakeholders (URA/HDB/LTA) - Recommend various landtake options based on strengths and weaknesses			
Manager – Master Planning			

(Sports Singapore , Sports Facilities Group)

Sep 2013 – Feb 2015 (Full Time)

Key responsibilities include

- Working with Stakeholders on project requirements
- Preparation of Sports Facilities Master plan
- Crafting of Tender Contracts and Specifications and Conducting QFM procurement
- GIS Feasibility Studies / Selection of Sites for Sports Facilities under Sports Facilities Master Plan

9	Project Concept Study	New Punggol Regional Sports Centre	Architectural Concept Proposal
		Size: 36500 sqm	Cost:\$200mil
	Work Areas <ul style="list-style-type: none"> - Gather user requirements - Consult external Authorities/Stakeholders (URA/HDB/LTA) - Produce Concept massing for rendering of Perspective - Produce design brief for calling of MDT consultants 		
10	Project Concept Study	A & A to Ang Mo Kio Swimming Complex	Architectural Concept Proposal
		Size: 6000 sqm	Cost:\$17mil
	Work Areas <ul style="list-style-type: none"> - Consult external Authorities/Stakeholders (URA/HDB/LTA) - Design new typology for concept of wet playfield - Brief and Solicit feedback from Grassroots committees - Produce design brief for calling of MDT consultants 		
11	Facilities planning	Sports Facilities Masterplan 2030	Masterplan
		Na	Cost: \$4.3bil
	Work Areas <ul style="list-style-type: none"> - Analyze sports participation surveys / focus group discussions - Study catchment and reach of sports facilities (Tennis courts) - Recommend new facilities to meet gaps in Facilities provision 		

Architect - Town Planning

(HDB , Research and Planning Group)

Oct 2011 – Sep 2013 (Full Time)

Key responsibilities include

- Facilitating Urban Design Workshops
- Town Coordinator handling public queries and coordination work with Gov planning agencies
- Planning for sufficient facilities to be provided for town under charge
- Submission of planning approvals to ensure supply of land to meet HDB’s Building Program quantum

12	Project Feasibility Study	Yishun Integrated Bus Interchange	Government Land sales
		Size:123,000 sqm Site: 4.11ha	Na

	Work Areas - Coordination with external authorities/stakeholders (URA/LTA/PUB/DSTA) - Study various bus interchange configurations in order to optimize landtake - Propose alternative configurations with various achievable plot ratios - Produce urban design guidelines for GLS tender documents		
13	Physical planning	HDB Punggol North Town plan	Masterplan
		Size:422ha 96,000 Dwellings	Na
	Work Areas - Coordination with external authorities/stakeholders (URA/LTA/PUB/NPARKS) - Propose massing configurations to meet required housing quantum projections - Produce urban design guidelines for calling of MDT consultants		
14	Physical planning	HDB Tampines North Town plan	Masterplan
		Site: 240ha 25,000 Dwellings	Na
	Work Areas - Coordination with external authorities/stakeholders (URA/LTA/PUB/NPARKS) - Propose massing configurations to meet required dwelling unit projections & GPR - Produce urban design guidelines for calling of MDT consultants		
Architectural Executive (DP Architects Pte Ltd) Jun 2009 - June 2011 (Full Time) Key responsibilities include - Revit BIM Document Controller for Sportshub Development - Component Lead for SSC Office Sportshub Development - Project Coordinator for S’pore University of Technology & Design competition (won) - Team Leader for BCA BIM skill competition (won)			
15	Detailed Design Documentation	Singapore Sportshub Development	Architecture Detailed Design
		Site: 35 ha	Cost: \$1.33 bil
	Work Areas - Building services coordination with multi-disciplinary team (M&E/C&S/Ldscape) - Detailed design of cubicle layout & floor plan for Sports Singapore office - Conduct facade design studies to optimize modularity and the efficient use of materials		
16	Concept Proposal	Singapore University of Technology and Design	Architectural Concept Competition
		Size: 100,600 sqm	Cost: \$229 mil
Work Areas - Coordination with overseas design Architect & Local MDT team - Ensure competition user-requirements are met in the design - Produce presentation panels			

Urban Designer
(Surbana International Consultants, Surbana Urban Planning Group)
Aug 2006- May 2008 (Full Time)
Responsibilities include
- Preparation of Tables and Figures for Planning Reports
- Drafting of landuse plans
- Urban Design Massing for City Downtowns

17	Physical planning	Al Wakra / Al Khor Qatar	Masterplan
		Al Wakra: 2483 sqkm Al Khor: 1552 sqkm	Na
	Responsibilities - Drafting of road/landuse infrastructure plans in Esri Arcgis, GIS - Massing visualization of downtown building form - Preparation of urban design guidelines for report		
18	Concept Proposal	Kimdo Royal Hotel Complex	Architectural Concept Competition
		Size: 51,500 sqm	Cost: \$55mil
	Responsibilities - Building service coordination with multi-disciplinary team - Propose hotel room layout - Liaise with perspectivist to ensure design intent is preserved in rendering		

Research Analyst
(NUS, Dr Stephen Wittkopf)
Nov 2003- Jan 2004 , Oct 2004 – Feb 2005 (Temp work)
- Research on Building Integrated Photovoltaic (BIPV) strategies for urban high rise housing
- Collected, collated and analysed data from PV experiment
- Procured and set up equipment for research experiments
- Ran computational energy simulations for theoretical BIPV designs
- Managed 2 batches of polytechnic interns working with Revit and EON studio softwares
- Research on new techniques for daylight simulation & analysis using photon mapping

19	Research	Building Integrated PhotoVoltaics BIPV	Experimental Research
		Size: 100 sqm	Funding: \$200k
	Responsibilities - Setup and calibration of Grid-connected BIPV panels - Automation of hourly data-collection - Plotting and interpreting data-logs - Preparing charts for research paper		