

Gre Base
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Ahmed Khairadeen Ali

SKILLS

Digital design and Fabrication using robot arm, 3D printing, and VR/AR technologies. Professional in Visual Programming and Coding programs like R and Python. Experience in artificial intelligence-machine learning-Deep learning in Architecture design and 3d convolution.

EXPERIENCE

Haenglim Architecture and Engineering, Seoul|South Korea – *AI Program Manager*

01 2019 – 03 2021

- Developing Facade design tool using artificial intelligence, specialty machine learning using python coding language.
- Built interactive city map for iFACADE project using javascript, and Html ref(<https://ionemap.netlify.app/>, <https://ione.netlify.app/>)
- hold robot arm, VR, visual programming workshops to train new architects in the company. ref:<https://www.youtube.com/watch?v=kSg0KiyGNNA>
- Built an interactive design tool online using three js and open GL.
- I developed a Grasshopper (visual programming) tool that generates a quick picture database of buildings. ref:<https://www.youtube.com/watch?v=TTmlttenwns&t=5s>
- Training and developing the 2D image to 3D model script using Generative Adversarial Networks (GAN) in deep learning. Ref:<https://www.youtube.com/watch?v=TDwELoWSpDs&t=1s>

Ajou University, Sowan|South Korea – *BIM Application developer*

Jan 2019 – Dec 2019

- I built this interactive map for Seongnam city, south Korea real estate values calculations after renovation. The goal was to give community citizens a tool to easily calculate and visualize land values with statistical analysis on individual land and city levels.
- Ref (<https://ahmedshingaly.shinyapps.io/appkonov28/>)
- Developed BIM models for remodeling projects using NavisWorks and Revit.

Chung-Ang University, Seoul|South Korea – *BIM Teacher Assistant*

Feb 2020 – Jun 2020

- Developed presentation slides for all class lectures
- Trained 3rd stage architecture engineering students to use Revit, Navisworks, and BIM 360 software

- Conducted every week of software teaching sessions and assignment assessment.

CONTIL lab, Seoul|South Korea – *Researcher*

Aug 2018 – Jun 2020

- Wrote academic papers in the field of safety in construction
- Developed lab website (contil.cau.ac.kr)
- Collaborated with other lab researchers in various academic conferences

Al-Tahreer Association for Development, Mosul|Iraq – *Project Manager*

Mar 2017 – Aug 2017

- Project manager of CFS in Talyara & Bo'weza as a partner with UNICEF
- A coordinate returning working group with IOM
- Conducted Child Protection and GBV workshops with other NGOs and Unicef

Anar Logistics, Erbil|Iraq – *HeadEngineer*

Sep 2014 – Jun 2015

- Constructing 7 Kilometer of Kukhi Village Road for Gulf-Keystone Gas company.
- HSE Manager of crude oil transport from Atrosh Duhok to Peshkabir Zakho.
- Directing Logistics of transporting oil from Gulf-Keystone to Turkey using trailers.
- Distributing Gas barrels to the displaced families in Zakho, Duhok in association with QANDIL
- The operator of tenders of Oil & Gas companies and worked with HKN, TAQA, DNO Companies as a subcontractor.

Tac architecture office, Duhok|Iraq – *Founder*

Jul 2012 – Jan 2014

- Owner of TAC (The Architectural Collaborative) bureau.
- Designed and constructed residential and commercial buildings in Duhok city Provence.
- Designed the interior of a Mosque in Karbala city.

University of Duhok, Duhok|Iraq – *Teaching Assistant*

Nov 2011 – Jul 2015

- Teaching software design programs such as (3d max, AutoCAD, Sketch-up, Photoshop) for third stage-undergraduate students.
- Assistant Supervised design labs of second stage-third stage-fourth stage and interior landscape design in the past years.
- Teaching Design thesis of first stage-undergraduate students and Urban infill-fifth stage-undergraduate students.

Chiya Ararat Co. for General Construction, Duhok|Iraq – *Architect*

Aug 2011 – Feb 2013

- Worked as an architect and construction supervisor of 21 villas of the project.

- Designed villa interiors, landscape, outside recreation buildings, Mosque, and building gates.
- Designed Kurdistan Contractors Union–Duhok building project.

EDUCATION

Chung-Ang University, Seoul|South Korea – *P.hD in Architecture Robotics*

Sep 2018 – Feb 2021

I received a Ph.D. degree with honor in Robotics and AI in Architecture from Chung-Ang University, Seoul, South Korea funded by the Korean Government Scholarship Program KGSP scholarship.

Konyang University, Nonsan|South Korea – *Proficiency in the Korean Language*

Aug 2017 – Jun 2018

I graduated from the Korean language program at Konyang university holding 4.0 on the TOPIK test which qualifies as higher intermittent in the Korean language.

Texas Tech University, Texas|United States – *M.Sc in Architecture Post Profession*

Aug 2015 – Dec 2016

I received a master's in science in digital design and fabrication from architecture school at texas university with 3.8/4.0 funded by the FULBRIGHT scholarship program.

Portland State University, Oregon|United States – *Pre-Academic Intensive Program*

Jun 2015 – Aug 2015

I participated in an intense pre-academic program run by IELP at Portland State University/Portland city/ Oregon State/ United States.

University of Duhok, Duhok|Iraq – *B.Sc in Architecture Engineering*

Oct 2007 – Jul 2011

I received my Bachelor in Architecture engineering from engineering college at the University of Duhok ranked "Second" in class.

AWARDS

The American Institute of Architects [AIA Assoc] since 2020 ref:39248011

Nonsan City Honorary Citizenship in 2017

Fulbright scholarship program Alumni class of 2015

Korean Government Scholarship Program Alumni class of 2017

Gamma Beta Phi fraternity alumni of 2016

AIAS Texas Tech Chapter 2015

Kurdistan Engineering Union member since 2011

Best paper award Korean Institute of Construction Engineering and Management (KICEM), at Seoul National University, Seoul, South Korea.

Publications

JOURNAL PAPER:

Khairadeen Ali, A.; Lee, O.J.; Lee, D.; Park, C. Remote Indoor Construction Progress Monitoring Using Extended Reality. *Sustainability* 2021, 13, 2290. <https://doi.org/10.3390/su13042290>

Ali, Ahmed Khairadeen, One Jae Lee, and Hayub Song. "Robot-based facade spatial assembly optimization." *Journal of Building Engineering* (2020): 101556.

Ali, Ahmed Khairadeen, Hayub Song, One Jae Lee, Eun Seok Kim, and Haneen Hashim Mohammed Ali. "Multi-Agent-Based Urban Vegetation Design." *International Journal of Environmental Research and Public Health* 17, no. 9 (2020): 3075.

Ali, Ahmed Khairadeen, One Jae Lee, and Hayub Song. "Generic design aided robotically facade pick and place in construction site dataset." *Data in brief* 31 (2020): 105933.

Khan, Numan, **Ahmed Khairadeen Ali**, Si Van-Tien Tran, Doyeop Lee, and Chansik Park. "Visual Language-Aided Construction Fire Safety Planning Approach in Building Information Modeling." *Applied Sciences* 10, no. 5 (2020): 1704.

Khan, Numan, **Ahmad K. Ali**, Mirosław J. Skibniewski, Do Yeop Lee, and Chansik Park. "Excavation safety modeling approach using BIM and VPL." *Advances in Civil Engineering* 2019 (2019).

CONFERENCE PAPER:

Ali, Ahmed Khairadeen, One Jae Leeb, and Chansik Parka. "Near Real-Time Monitoring of Construction Progress: Integration of Extended Reality and Kinect V2."

Trana, Si Van-Tien, Ahmed Khairadeen Alia, Numan Khana, Doyeop Lee, and Chansik Parka. "A Framework for Camera Planning in Construction Site using 4D BIM and VPL."

Khan, Numan, Doyeop Lee, **Ahmed Khairadeen Ali**, and Chansik Parka. "Artificial Intelligence and Blockchain-based Inspection Data Recording System for Portable Firefighting Equipment."

Numan Khan, **Ahmed Khairadeen Ali**, and Chansik Park. "Automatic Safety Rule compliance Approach for Excavation Pit Leveraging Algorithmic Modeling Tool and BIM technology". KICEM 2018

THESIS:

Ali, Ahmed K. "Informative Urbanism a method of cross networking city data from spatial locations to their actual systematic networking." M.Sc Thesis, 2016.

Ali, Ahmed K. "Robotics and Multi-Agent System Framework for Facade Design, Assembly and Monitoring" Ph.D Dissertation, 2020.

Community Services

Amizade & Fulbright collaboration program Williamson, West Virginia, spring break 2016

Foster House gardening Kentucky spring break 2016

Focus Group feeding homeless people Portland, Oregon Fall 2015

Cleaning public buildings of Shoresh area, Duhok 2013

Finding shelters for Syrian refugee Duhok Fall 2011

Volunteered for Tutoring math subject Kawa high school students Duhok Summer Break 2009

Training

- Understanding the Architect's Standard of Care
NCARB, USA, April 16th, 2020
- AXP Portfolio Supervisor Training, NCARB, USA, Jan 4th, 2020
- KUKA robot KRL scripting language program, KUKA center, Anyang, South Korea 2019
Gender Equality and Human rights CAU, Seoul, S.Korea 19-20/12/2018
- Participated in "Case management and Caring for Child Survivors" training program Duhok, Iraq May 7th-11th Save the Children
- Participated in "Psychological First Aid (PFA)" training program
Duhok, Iraq April 26th-27th Save the Children
- Participated in "Child Resilience" training program
Duhok, Iraq April 2nd -5th Save the Children
- "Alternative Care in Emergency" training program
Duhok, Iraq April 13th, 14th Save the Children
- Participated in "Case Management" training program
Duhok, Iraq April 16th, 17th ACTED