

## Homework 1 NI-GNN

Objective: Explore the ICIJ Offshore Leaks dataset, that contains suspicious companies and associated people with them, for interesting/important patterns.

### 1 Exploratory Data Analysis

#### 1.1 Officers overseeing a lot of companies

Individuals working for multiple companies (as active workers). Here only some filters were applied to remove companies from officer.name due to unclean data. Additionally, active workers only cover director and manager for similar reason.

Retrieved 10 out of 11123 rows

officer_name	position	n_position
Angela On Kei LEONG	Beneficial Owner, Shareholder and Director	5
Ali Jehangir Siddiqui	Director	6
Mohammed Mahdi Al Tajir	Director	5
Claude Michel Sezalory	Director and Shareholder	6
Annette Agnes Sui Chai Siok	alternate director of	26
GINGLES MICHAEL J.	alternate director of	21
Friis – Henrik	alternate director of	20
MCLENNAN REX J.	alternate director of	16
GOLD GEOFF P	alternate director of	15
ROSE JOHN DONALD	alternate director of	12

#### 1.2 Officers acting as intermediaries for the same company

Individuals working as officers and intermediaries for the same company may raise some ethical and legal concerns regarding occupational fraud and conflict of interest between company and individual needs.

Retrieved 5 out of 203 rows

officer_name	entity_name	current_position
CHEN, YUAN-HSIU	HonFord Corp.	[director of, secretary of]
David John Smart	Smartsoft Ltd.	[director of]
Fan Cheng-Ming	Glory Fortune Holdings Group Limited	[director of]
Chen, Pao-Ho	BIG CITY LIMITED	[director of]
Cheng, Hsiu-Yu	Worldly International Development Ltd	[director of]

### 1.3 Addresses connected to a lot of officers

Residential-type addresses connected to a lot of officers. This may raise suspicions of fake officers (name with no real role) or identity obscurement.

Retrieved 10 out of 367 rows

address_id	address_type	address_name	registered_officers	ofc_count
81031366	[mailing address; residential address]	Unocal Corporation	[Lindsell - Keith, Ling - Timothy H., Longerich - ...	113
81029389	[business address; residential address]	Argyle House	[Lodge - Jamillah L., Logan - Jill, Mackrill - Ali...	97
81031366	[residential address; mailing address]	Unocal Corporation	[Lepine - George V., Magnussen - Nils, Mahajan - N...	80
81029389	[residential address; business address]	Argyle House	[Lynn - Angus Belford, Meade - Brenda, Morales - M...	71
81027090	[business address; residential address]	Canon's Court	[Lightbourne - Jessica, Lynch - Alisdair, Mansell ...	64
81027090	[residential address; business address]	Canon's Court	[Lipsky - Pascal M A, Lynn - Angus Belford, McMaho...	57
81029384	[residential address; mailing address]	Victoria Hall	[Lima - Michael D, Lindo - David E., Maranga - Dav...	53
81027090	[mailing address; residential address]	Canon's Court	[Miller - Victoria Antoinette, Moore - Janet E, Mo...	52
81029384	[mailing address; residential address]	Victoria Hall	[Lord - Catherine, Malcolm - Neil, Mckay - Lesley ...	49
81033013	[mailing address; residential address]	ConocoPhillips	[Limbacher - Randy Lee, Lueers - Kenneth H, Lunam ...	44

## Attachment

### A Data Dictionary

Nodes	Properties/Attributes (DType)	Sample Values
officer	country_codes (string)	"BRB", "CUW", "USA"
	name (string)	"BLADES EDMUND DACOSTA", "BONDARYEVA NATALYA"
	node_id (string)	"110008242", "110008513"
	sourceID (string)	"Offshore Leaks"
entity	incorporation_date (date)	"02-JAN-2014"
	jurisdiction (string)	"ANG", "BAH", "BRB"
	name (string)	"ABLE CONCEPT INTERNATIONAL LTD.", "ACC GENERAL TRADING LIMITED"
	node_id (string)	"10000678", "100003086"
	sourceID (string)	"Offshore Leaks"
	country_codes (string)	"BRB", "CUW", "USA"
	status (string)	"Active", "Defaulted"
	struck_off_date (date)	"31-OCT-2012"
address	address (string)	"2ND AVE FLINT HALL, ST.MI- CHAEL, BARBADOS."
	country_codes (string)	"BRB", "CUW", "USA"
	node_id (string)	"120011884", "120011932"
	sourceID (string)	"Offshore Leaks"
intermediary	address (string)	"ZHANG WEI 23 BEGONIA PATH; MONTEREY PALM SPRINGS; YUEN LONG; N.T. HK"
	country_codes (string)	"BRB", "CUW", "USA"
	name (string)	"Sachiko Kondo", "Shindo Sumidomo"
	node_id (string)	"11003138", "11007177"
	sourceID (string)	"Offshore Leaks"
	status (string)	"ACTIVE", "SUSPENDED"

other	incorporation_date (date)	"03-MAY-1989"
	jurisdiction (string)	"AW"
	name (string)	"A.C. Wates 1971 Settlement", "AAK Company Ltd."
	node_id (string)	"80010338"
	sourceID (string)	"Paradise Papers-Appleby"
	struck_off_date (date)	"23-AUG-2001"
	type (string)	"LIMITED LIABILITY COMPAN, SOLE OWNERSHIP"