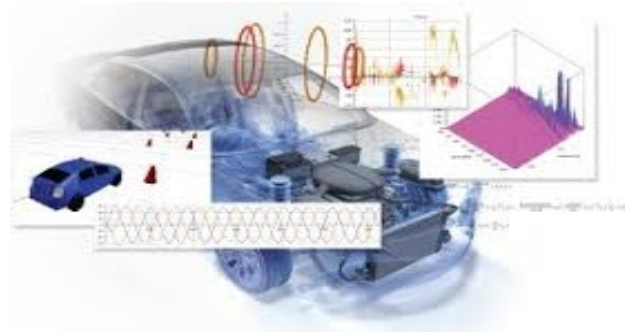
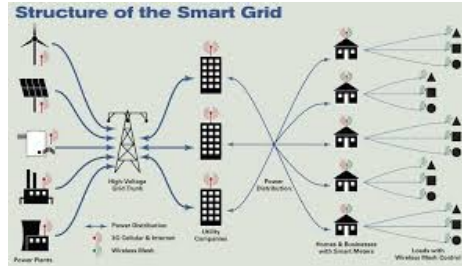


Research

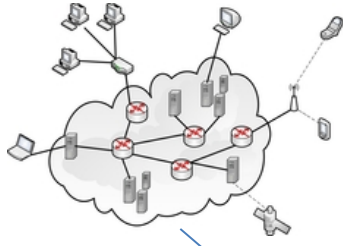
Application Areas



Industry Sponsors



Research Highlight



Distributed Systems,
Network expertise

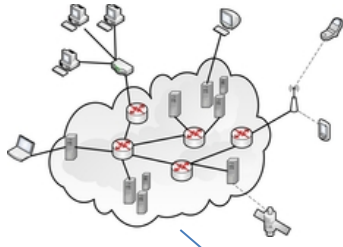


Software Engineering expertise



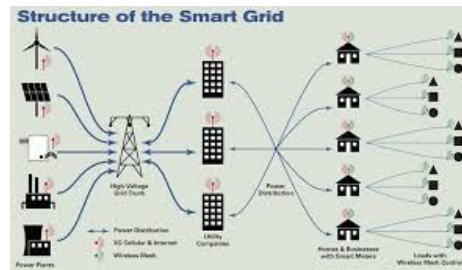
- Largest NSERC Strategic Grant in Canada granted on IoT Middleware
- Team: **Led by Western** includes Toronto, Uvic

Research Highlight:



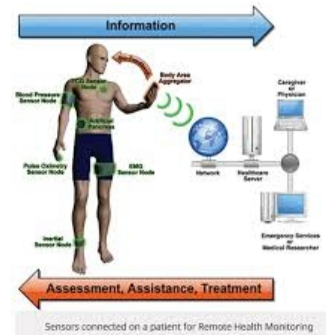
Distributed Systems,
Network expertise

Software Engineering expertise



- Projects
 - Finding the cause of an outage
 - Rerouting power in response
 - Encourage consumers to reduce energy usage with apps and/or games

Research Highlight



- Combine ML and patient data to suggest lifestyle changes
- Glucoguide is a company started by a CS faculty algorithm based on the research

Research Highlight



SAT
Boolean Satisfiability

Boolean Formula

- ① Variables x_1, x_2, x_3 { "true" / 1
"false" / 0
- ② "not" \bar{x}_i, \bar{x}_j ($x_i = \text{true} \Rightarrow \bar{x}_i = \text{false}$)
- ③ "and" $(x_1 \wedge x_2)$ $0 \wedge 0 = 0$ $1 \wedge 0 = 0$ $1 \wedge 1 = 1$
- ④ "or" $(x_1 \vee x_2)$ $0 \vee 0 = 0$ $0 \vee 1 = 1$ $1 \vee 0 = 1$ $1 \vee 1 = 1$

QUIZ: $((x_1 \vee x_2 \vee x_3) \wedge \bar{x}_1 \vee x_2)$ $x_1=1$ $x_2=1$ $x_3=1$

$0 = 0$ $1 = 1$



- Neuroinformatics – Study of the brain
 - Research: Help stroke victims recover their hands
 - Research: Develop concussion blood test

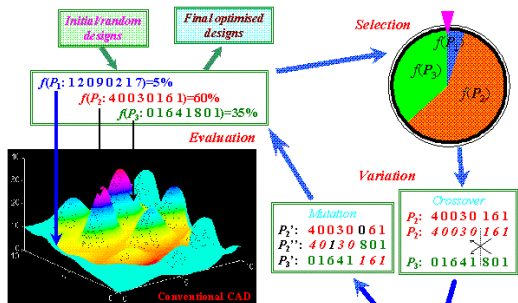
Research Highlight



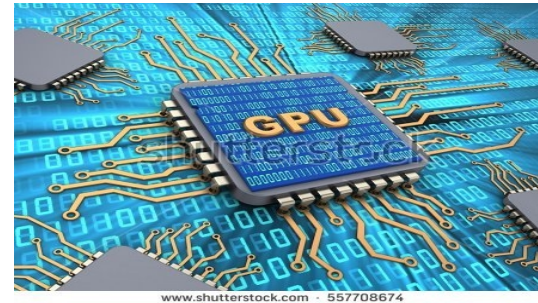
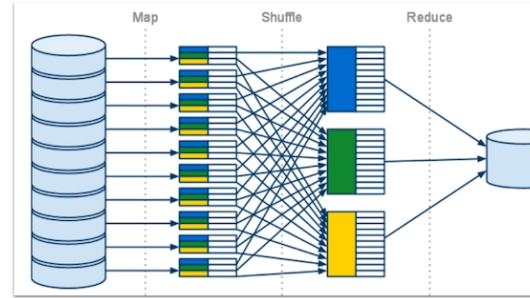
- Focus on the attentiveness of drivers;
- Car may automatically stop at a stop sign if it detects that the driver isn't paying attention
- Must be done in realtime

Research Highlight

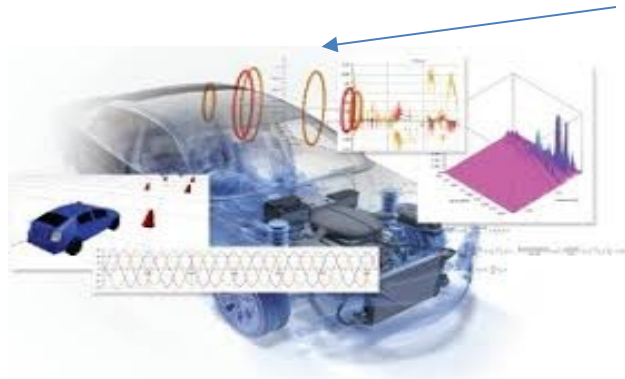
Computer-Automated Design by Artificial Evolution



Genetic algorithm



Parallel Models - optimize performance



Research Algorithm

- Some of the fastest bioinformatics algorithms in the world have been developed at Western.
- New emerging area in game analytics.