<table>
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<tr>
<th>Project Code</th>
<th>School Research Area</th>
<th>Project Title</th>
<th>Supervisor</th>
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<tbody>
<tr>
<td>CSE-N-1</td>
<td>Algorithms</td>
<td>Multi-core reconstruction of control flow graphs for binary programs</td>
<td>Franck Cassez</td>
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<td>CSE-N-6</td>
<td>Artificial Intelligence</td>
<td>How to save millions of dollars for water utility companies by picking out dying pipes</td>
<td>Bang Zhang</td>
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<td>CSE-N-7</td>
<td>Artificial Intelligence</td>
<td>How to use machine learning and signal processing techniques for diagnosis of cattle pregnancy</td>
<td>Bang Zhang</td>
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<td>CSE-N-2</td>
<td>Artificial Intelligence</td>
<td>Causal Bayesian Network for Understanding Road Traffic Changes by Incidents Occurring</td>
<td>Guohua Liang</td>
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<td>CSE-N-9</td>
<td>Artificial Intelligence</td>
<td>Sensor Validation for Structural Health Monitoring</td>
<td>Khoa Nguyen</td>
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<td>CSE-N-4</td>
<td>Artificial Intelligence</td>
<td>Dividing the Indivisible</td>
<td>Toby Walsh</td>
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<td>CSE-N-10</td>
<td>Artificial Intelligence</td>
<td>Using a 3D printer to solve hard computational problems</td>
<td>Toby Walsh</td>
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<td>Discovering the Most Influential Intersections from Road</td>
<td>Wei Liu</td>
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<td>CSE-N-5</td>
<td>Artificial Intelligence</td>
<td>Forecasting road incidents by learning historical road traffic data</td>
<td>Wei Liu</td>
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<td>CSE-N-8</td>
<td>Artificial Intelligence</td>
<td>Mining social networks for early detection of events</td>
<td>Wei Liu</td>
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<td>EET-N-4</td>
<td>Data and Mobile Networks</td>
<td>Identity Management in Online Systems</td>
<td>Arik Friedman</td>
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<tr>
<td>EET-N-3</td>
<td>Data and Mobile Networks</td>
<td>Crowdsourced Cache System for Smart Mobile Devices</td>
<td>Aruna Senevirante</td>
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<td>EET-N-2</td>
<td>Data and Mobile Networks</td>
<td>A study of the impact of recommendations on users’ choices. The chicken or the egg problem.</td>
<td>Dali Kaafar</td>
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<td>EET-N-6</td>
<td>Data and Mobile Networks</td>
<td>On the potential of big Advertisement players in the ads targeting business.</td>
<td>Dali Kaafar</td>
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<td>EET-N-9</td>
<td>Data and Mobile Networks</td>
<td>The potential of Recommender Systems to breach user privacy in P2P</td>
<td>Dali Kaafar</td>
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<tr>
<td>EET-N-1</td>
<td>Data and Mobile Networks</td>
<td>3D Base station beamforming for multiuser networks with massive antenna arrays</td>
<td>Jinhong Yuan</td>
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<td>EET-N-5</td>
<td>Data and Mobile Networks</td>
<td>Measurement and Reporting Application for Android Mobile Devices</td>
<td>Olivier Mehani</td>
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<td>EET-N-8</td>
<td>Data and Mobile Networks</td>
<td>REST API to Access Experimental Measurement Data</td>
<td>Olivier Mehani</td>
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<td>EET-N-7</td>
<td>Data and Mobile Networks</td>
<td>Privacy-Preserving Data Processing in Online Systems</td>
<td>Roksana Boreli</td>
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<td>CSE-N-11</td>
<td>Databases</td>
<td>Understanding Macroeconomy using Search Engine Data</td>
<td>Chen Cai</td>
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<td>CSE-N-17</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Extending the proof synthesis DSL for Bilby</td>
<td>Gabriele Keller</td>
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<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Formalising a simple file system</td>
<td>Gabriele Keller</td>
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<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Efficient game-based software synthesis</td>
<td>Gernot Heiser</td>
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<td>CSE-N-22</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Interactive game as demonstrator of real-time application on seL4</td>
<td>Gernot Heiser</td>
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<td>CSE-N-26</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>OS support for non-volatile random-access memory</td>
<td>Gernot Heiser</td>
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<td>CSE-N-32</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Virtualized Windows on seL4</td>
<td>Gernot Heiser</td>
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<td>CSE-N-13</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Automating Security Architecture Design</td>
<td>Ihor Kuz</td>
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<td>CSE-N-15</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>CAmkES on Linux</td>
<td>Ihor Kuz</td>
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<tr>
<td>CSE-N-20</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>High-Assurance POSIX Implementation</td>
<td>Ihor Kuz</td>
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<td>CSE-N-21</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>High-Performance User-Level Device Drivers</td>
<td>Ihor Kuz</td>
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<tr>
<td>CSE-N-23</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Linux as a Component</td>
<td>Ihor Kuz</td>
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<td>CSE-N-25</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Operating System Components</td>
<td>Ihor Kuz</td>
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<td>CSE-N-28</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Secure Quadcopter</td>
<td>Ihor Kuz</td>
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<td>CSE-N-29</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Secure systems: Can you design and implement an unhackable system?</td>
<td>Ihor Kuz</td>
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<td>CSE-N-30</td>
<td>Embedded, Real Time &amp; Operating Systems</td>
<td>Security Architecture Analysis</td>
<td>Ihor Kuz</td>
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</table>
## CSE-N-14
- **Embedded, Real Time & Operating Systems**
- **Benchmarking and Optimising a Microkernel**  
**Kevin Elphinstone**

## CSE-N-27
- **Embedded, Real Time & Operating Systems**
- **Porting Xen to seL4**  
**Kevin Elphinstone**

## CSE-N-31
- **Embedded, Real Time & Operating Systems**
- **Semantics for Embedded Systems Software Architectures**  
**Mark Staples**

## CSE-N-18
- **Embedded, Real Time & Operating Systems**
- **File systems for Embedded Systems**  
**Peter Chubb**

## CSE-N-24
- **Embedded, Real Time & Operating Systems**
- **Low Latency Video Conferencing**  
**Peter Chubb**

## CSE-N-12
- **Embedded, Real Time & Operating Systems**
- **Static Security Analysis of Android**  
**Ralf Huuck**

## CSE-N-34
- **Formal Methods**
- **Analysis of Timed Automata using Time-Darts**  
**Franck Cassez**

## CSE-N-36
- **Formal Methods**
- **Automatic Generation of Control-Flow Graphs for Xtensa® Instruction Set Architecture (ISA).**  
**Franck Cassez**

## CSE-N-35
- **Formal Methods**
- **Automatic fact generalisation for Isabelle/HOL.**  
**Gerwin Klein**

## CSE-N-42
- **Formal Methods**
- **Software model checking for a Real-time OS**  
**Gerwin Klein**

## CSE-N-43
- **Formal Methods**
- **Testing vs Formal Verification**  
**Gerwin Klein**

## CSE-N-44
- **Formal Methods**
- **Tools for Formally Verifying C Code**  
**June Andronick**

## CSE-N-46
- **Formal Methods**
- **Verified Software Components**  
**June Andronick**

## CSE-N-38
- **Formal Methods**
- **Big Data? Big Proofs! - a Scala API for Analysing Isabelle/HOL Proof Scripts**  
**Mark Staples**

## CSE-N-39
- **Formal Methods**
- **Can you Break the Semantics for C Used to Verify sel4?**  
**Mark Staples**

## CSE-N-40
- **Formal Methods**
- **Automatic Translation of Routing Protocol Specifications**  
**Peter Hoefner**

## CSE-N-41
- **Formal Methods**
- **Model Checking of Mesh Network Routing Protocols**  
**Peter Hoefner**

## CSE-N-45
- **Formal Methods**
- **Type-Checking for Algebra of Wireless Networks**  
**Peter Hoefner**

## CSE-N-33
- **Formal Methods**
- **Algorithmic Software Verification in the Cloud**  
**Ralf Huuck**

## CSE-N-41
- **Formal Methods**
- **Modelling Routing Protocols**  
**Rob van Glabbeek**

## CSE-N-47
- **Formal Methods**
- **Verifying a High-Assurance POSIX Implementation**  
**Toby Murray**

## CSE-N-48
- **Hardware Design, Computer Architectures, etc**
- **Formal Hardware Models for ARM-based Processor Platforms**  
**Franck Cassez**

## CSE-N-51
- **Human Computer Interaction**
- **Exploring Speech & Lexical Content for Prediction of Domain Expertise**  
**Fang Chen**

## CSE-N-52
- **Human Computer Interaction**
- **How accurately can people predict domain expertise? – A comparison of humans and computers**  
**Fang Chen**

## CSE-N-54
- **Human Computer Interaction**
- **Machine Learning Driven Information Visualization on 3D Maps**  
**Jianlong Zhou**

## CSE-N-55
- **Human Computer Interaction**
- **Make Machine Learning Useable**  
**Jianlong Zhou**

## CSE-N-49
- **Human Computer Interaction**
- **Driving simulator: Taming the sensors**  
**Ronnie Taib**

## CSE-N-50
- **Human Computer Interaction**
- **Driving simulator: Unity3D tasks to elicit mental states**  
**Ronnie Taib**

## CSE-N-53
- **Human Computer Interaction**
- **Individual limits of multitasking and mental recovery**  
**Ronnie Taib**

## CSE-N-56
- **Networks, Sensor Networks, etc**
- **Self-contained Indoor Localization Using Smartphone Sensors**  
**Mahbub Hassan**

## EET-N-10
- **Signal Processing**
- **Bridge Model with an Active Sensor Network for Structural Health Monitoring Application**  
**Samir Mustapha**

## EET-N-11
- **Signal Processing**
- **Developing of Wireless Embedded Sensors for Structural Health Monitoring**  
**Samir Mustapha**

## EET-N-12
- **Signal Processing**
- **Ultrasonic Waves for Damage Identification in Prestressed Wire Strands**  
**Samir Mustapha**

## CSE-N-60
- **Software Engineering**
- **Scaling Up, Down, Out or In? Towards an Empirically Driven Cloud Provisioning Recommender**  
**Adneu Guabtni**

## CSE-N-57
- **Software Engineering**
- **Availability Analysis for Applications in Public Cloud**  
**Liming Zhu**

## CSE-N-58
- **Software Engineering**
- **Dependable Auditing on Operations of Cloud Applications**  
**Liming Zhu**

## CSE-N-61
- **Software Engineering**
- **Understanding and Improving Operational Processes in Large-scale Distributed Systems**  
**Liming Zhu**

## CSE-N-59
- **Software Engineering**
- **Implementing Secure Protocols for Quadcopters**  
**Peter Hoefner**

## CSE-N-62
- **Theoretical Computer Science**
- **SMT Solvers for C/C++ Analysis**  
**Ralf Huuck**